

A comparison of destination images from three different perspectives

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Abstract

In Japan, many local governments are currently investing more effort into promoting inbound tourism. Many studies have been conducted to examine destination image in Japan. However, few studies investigate the differences in point of view between Japanese tourists and foreign tourists toward particular tourist attractions. Depending upon the tourist's country of origin, there are variances in preferences or impressions of such locations. In addition, tourism promoters have their own ideas about which tourist attractions they want to recommend in their cities or towns. This study investigates the differences in destination image of a particular tourist attraction held by Japanese tourists and foreign tourists using a data mining approach toward analyzing the text data from reviews posted on TripAdvisor. Moreover, the information in the official sightseeing websites was analyzed using text mining with respect to Japanese and English text data in order to compare the results of Japanese and foreign tourists' destination images of a particular tourist attraction. It was found that different destination images arose from one tourist attraction between Japanese and English texts. In addition, there were some sightseeing events that were not in the destination images of tourists, which can consider to be a recommendation by local promoters.

Keywords

destination image, inbound tourism, TripAdvisor, text mining approach, KH Coder

1. Introduction

Japan has been gaining more attention as a tourism destination in recent years. This is because the government initiated a campaign started from 2003 [Ministry of Land, Infrastructure, Transport and Tourism, 2012] to promote the country as a tourism-oriented country. This endeavor led to an increase in the number of foreign tourists except during the years in which a natural disaster, 2011 Tohoku earthquake, or economic downturns occurred. The number of foreign tourists to Japan reached 28.7 million in 2017. Japan has received a record number of tourists for five consecutive years from 2013 through 2017 [Nikkei Asian Review, 2018]. For 2020, when it will host the Tokyo Olympics and Paralympics, Japan has set a goal of welcoming 40 million foreign tourists [Mainichi Shimbun, 2016].

The majority of foreign tourists to Japan, about 80 %, are from Asia, particularly from China, Taiwan, South Korea, Thai, Vietnam, Indonesia, and Hong Kong. The number of tourists from Europe, the U.S., and Australia rose but the percentage of growth in 2017 did not expand much [Nikkei Asian Review, 2018]. More tourists from those countries need to be encouraged to visit Japan.

In order to develop strategies for increasing the number of foreign tourists, it is important to recognize the destination image that tourists have of Japan. This is because the destination image is developed and influenced by tourists' satisfaction and dissatisfaction during their stay and will then be transmitted by word of mouth to the people who have not been there. Furthermore, for improving the image of a destination, a marketing strategy is required.

According to the Consumption Trend Survey for Foreigners

Visiting Japan [Japan Tourism Agency, 2017], foreign tourists mainly refer to review sites (e.g., TripAdvisor) (13.1 %), SNS (e.g., Facebook, Twitter, WeChat) (21.4 %), or personal blogs (31.2 %) before they visit Japan. This is because word of mouth is one of the most reliable information sources for deciding travel destinations and determining tourists' image of the destination.

The reports on Consumption Trend Survey for Foreigners Visiting Japan provide the results according to the tourists' countries of origin. Based on this report, the methods to promote travel to Japan for tourists from a specific country can be planned. For example, such information may help to develop a better website about a particular tourist attraction. Usually, official websites are built by tourism promoters such as local governments, local tourism associations, or the business maintaining the tourism attraction. Each of these provides a particular perspective with appropriate information about the attraction. However, in developing their websites further, they may wish to get to know their particular potential tourists better in order to gain their attention. Therefore, it would then be useful to include the information that tourists need as well as the information that tourism promoters in Japan want to provide. Moreover, the tourist who is planning to travel to the location may appreciate having online access to particular interesting or surprising pieces of information about the site. Such information can come from other tourists' perspectives. For example, tourists may construct a destination image of a tourist attraction within their own country differently than tourists from outside their country. This study investigates destination images of a particular tourist attraction from three perspectives: Japanese tourists, foreign tourists, and the tourism promoters.

The study provides literature reviews of destination images and text mining approaches in section 2, an outline of the study's methodology in section 3, and the findings in section 4. It then discusses the findings and provides conclusions in sec-

tion 5. In conclusion, the author proposes promotional strategies for stimulating inbound tourism to Japan.

2. Literature review (Destination image and text mining approaches)

Many related studies about destination images have been carried out. One interesting research trend in investigating destination image is using online reviews from the online tourist review service, TripAdvisor.

Travel reviews are useful to form a destination image. However, it is subjective and may give specific information to the readers. On the other hand, for getting information of a destination a guidebook might have more objective information. Ohkubo and Muromachi [2014] investigated the destination image of Japan using text data from an English guidebook, *Lonely Planet*, and visitors' reviews from TripAdvisor by counting the number of total words and word types. They compared the text data of five wards in Tokyo on *Lonely Planet* and TripAdvisor. According to their analysis, the guidebook has a wide range of information about the destination, whereas the number of word types is relatively limited in the reviews on TripAdvisor. They also found that destination images differed depending on the tourists' countries of origin.

Destination image may form differently depending on the background of the tourists. Additionally, the sex of tourists might be an element of forming different destination images. Kladou and Mavragani [2015] collected tourists' reviews from the Historic Areas of Istanbul page on TripAdvisor and analyzed the destination images. They found that men tended to provide more positive comments than women did.

Destination images that the tourism promoters want to give to the potential tourists may be different from the one that tourists who already visited the tourist attraction. Wong and Qi [2017] used tourists' reviews to investigate how Macau's destination image is portrayed on TripAdvisor. They utilized a text mining approach to analyze the reviews posted to TripAdvisor by tourists who had visited Macau by using frequent words and the network of the words. They also analyzed nine years' worth of text data provided on the websites of the official destination promoter. They compared the destination images from TripAdvisor to the ones that the Macau government promoted in each period. They found that Macau's official destination image stayed the same over time. On the other hand, the promotional destination image exhibited by the official promoter on TripAdvisor demonstrated certain trends. Therefore, using the reviews posted on TripAdvisor proved useful in analyzing the destination images.

In tourism research, the number of studies using text mining is growing. The studies mentioned above also use the approach. In addition, there are various methods of text mining that tourism researchers may use. Murakami et al. [2011] collected blogs in English about travel to Japan from five popular travel blog sites and analyzed the characteristics of word appearance about tourist attractions based on country of origin (e.g., US,

UK, Australia, Canada, and Japan) of tourists. The researchers used morphological analysis, tf-idf weight, and dependency parsing in their analysis. They found that tourist attractions and keywords about Japan travel that they paid attention to differed depending on the tourist's country of origin.

Tsuji et al. [2014] also used text mining approaches such as morphological analysis, word frequency analysis, and dependency analysis to analyze hotel user reviews. They used numerical evaluations of the user reviews to create a synonym dictionary and indicated associated synonyms. They then proposed a new reference index for evaluating a hotel's strengths and weaknesses.

Ban et al. [2016] investigated the characteristics of English guidebooks for Kanazawa and Toyama, popular tourist places in Japan, in order to understand the language service for foreign tourists. They used text mining and statistical analysis and found that English guidebooks for those two areas have a similar tendency to literary writings and the difficulty level is low.

There are many text mining approaches whose utility depend upon the purpose of the research. In this study, reviews from TripAdvisor are used as text data and analyzed with a text mining approach and statistical analysis to find the destination images of a particular tourist attraction in Japan.

3. Methodology

3.1 Reviews on TripAdvisor

Among review sites, TripAdvisor is the world's largest travel site, providing 661 million visitor's reviews and opinions [TripAdvisor, 2018a]. The TripAdvisor Popularity Ranking algorithm ranks accommodations, tourist attractions, and restaurants [TripAdvisor, 2018b]. According to TripAdvisor, the ranking is based on the quality (the bubble ratings), recency, and quantity (the number of reviews) of reviews, and these factors interact over time with consistency. The business ranking rises if it consistently receives good reviews (higher bubble ratings).

In this study, the author collected the reviews posted on TripAdvisor for particular tourist attractions in Sapporo City in Hokkaido, Japan. Hokkaido is one of the most popular sight-seeing prefectures in Japan; for foreign tourists, Hokkaido is the eighth most popular place to visit among the 47 prefectures of Japan [Japan National Tourism Organization, 2017]. There are many reviews in Japanese and foreign languages. As English reviews were posted more than other languages, the Japanese and English reviews on 11 popular tourist attractions in Sapporo City posted from September 2014 through August 2016 were collected. The total number of collected reviews was 5,404. There were more reviews in Japanese (3,339) than reviews in foreign languages (2,065). The number of reviews in English was 1,229.

3.2 Sapporo City

Sapporo is the capital city of Hokkaido. The city government collects and publishes its own statistical data about tourism to

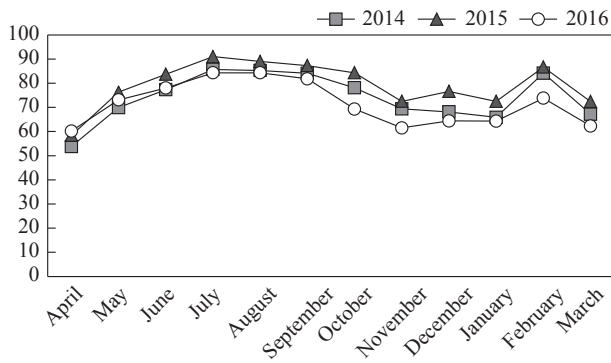


Figure 1: Occupancy ratio of accommodations in Sapporo City (%)
Source: City of Sapporo.

Sapporo [City of Sapporo, 2017]. The occupancy ratio of accommodations in Sapporo City from 2014 through 2016 are shown in Figure 1.

During the summer (June, July, and August), the occupancy ratio is high because the weather in Sapporo City in summer is not as hot as in other prefectures in Japan. It seems that many tourists visit Sapporo City during the summer. On the other hand, the occupancy ratio in winter (November, December, and January) is relatively low as there is a great deal of snow and the temperatures are colder than in other prefectures. It stands to reason that people might be less likely to choose Sapporo City as a tourist destination during winter. However, February, a winter month, has high occupancy rates. One reason for this is likely the Sapporo Snow Festival occurs in February, which draws many tourists from not only inside Japan but also outside Japan.

Figure 2 shows the trend of overnight foreign guests in Sapporo City. Compared with Figure 1, the numbers of overnight foreign guests in December and January, winter months, are higher than those in summer while the occupancy ratios in December and January are lower than those in summer. It seems that foreign tourists visit Sapporo more in winter and there might be attractiveness of winter in Sapporo especially for foreign tourist.

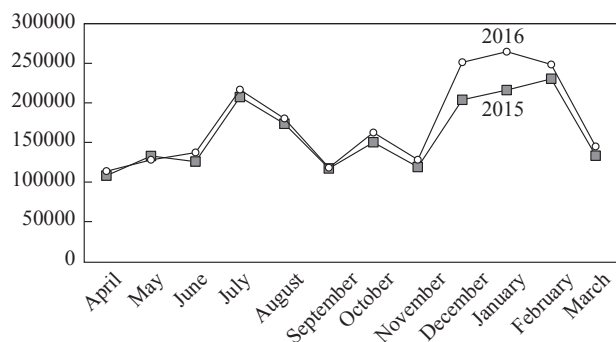


Figure 2: Trend of overnight foreign guests in Sapporo City
Source: City of Sapporo.

3.3 KH Coder

This study uses KH Coder, a free software platform for analyzing textual data (<http://khc.sourceforge.net/en>). This software deals with several languages, including Japanese, English, French, German, Italian, Portuguese, and Spanish. It also enables various kinds of analysis, such as correspondence analysis, co-occurrence analysis, hierarchical cluster analysis, and so on [Higuchi 2016, 2017]. This software is used not only by Japanese researchers but foreign researchers for tourism-related text analysis [Povilanskas et al., 2016; Sasaki and Nishii, 2012]. This study uses KH Coder to analyze Japanese and English text data.

4. Findings

4.1 Number of reviews and trends

In order to see what kind of information about this particular destination is interesting or surprising enough to attract potential tourists (both Japanese tourists and foreign tourists), Japanese and foreign language reviews posted on TripAdvisor for two years, from September 2014 to August 2016, were collected. The total number of Japanese reviews for two years was 3,339 and that of foreign languages was 2,065. The trends of numbers of reviews in Japanese and foreign languages are shown in Figure 3. This trend is not similar to the occupancy ratio of accommodations (Figure 1) or that of overnight foreign guests in Sapporo City (Figure 2). However, the peak (or almost) month of February can be seen in Figures 1, 2, and 3.

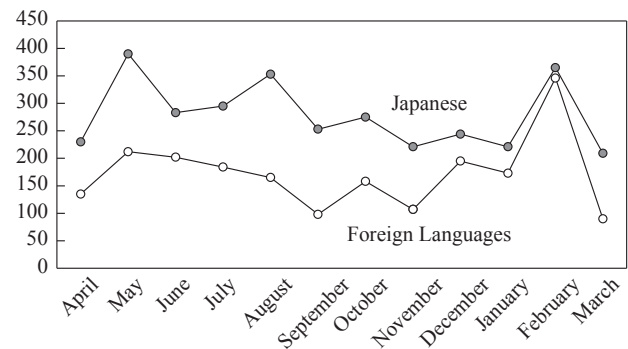


Figure 3: Trends of numbers of reviews in Japanese and foreign languages (11 tourist attractions)

Figure 4 illustrates the number of reviews in Japanese and foreign languages for 11 tourist attractions in Sapporo City. During the data collection period (September 2016), the ranking of top 10 tourist attractions in TripAdvisor did not stay the same. These 11 tourist attractions stayed within top 10. Therefore, these 11 tourist attractions were chosen.

There were many foreign language reviews about Sapporo City. Figure 5 shows the numbers of reviews in major foreign languages for the top 11 tourist attractions. The five most frequently used languages for TripAdvisor reviews over this two-year period were English, Chinese, Korean, Thai, and Russian. Other foreign languages were Indonesian, Portuguese, Spanish,

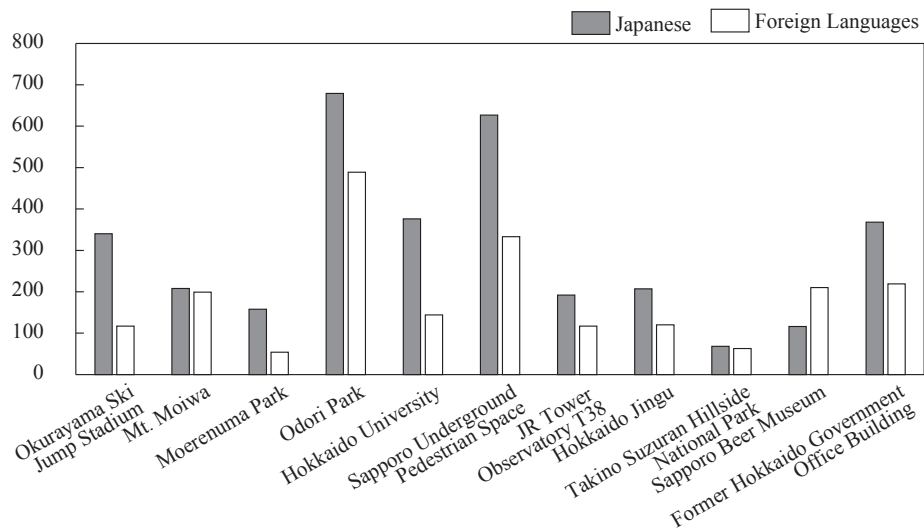


Figure 4: Numbers of reviews in Japanese and foreign languages for 11 tourist attractions

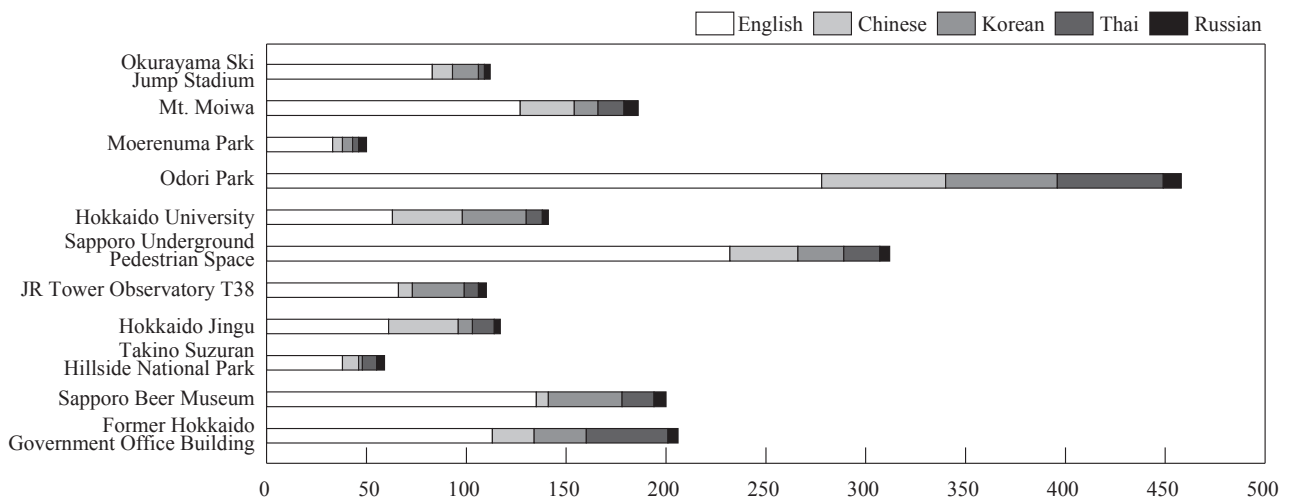


Figure 5: Numbers of reviews in major foreign languages for 11 tourist attractions

German, French, Italian, Dutch, Swedish, and Hebrew. Within the reviews in foreign languages, the number of reviews in English was 1,229.

The purpose of this study is to discern the difference between the destination images of a particular Japanese tourist site, in this case Sapporo City, held by Japanese tourists and that held by foreign tourists. Therefore, one tourist attraction out of the top 11 in Sapporo City was chosen to analyze the difference. As can be seen in Figure 4, Odori Park, in fourth place in TripAdvisor's Sapporo City ranking, had the most reviews in the target period. Among the foreign languages, English-language reviews are more prevalent than those in other foreign languages. Therefore, Japanese and English reviews for Odori Park were used for text analysis.

Figure 6 shows the trends of numbers of reviews in Japanese and English for Odori Park. The number of Japanese reviews is 679, and that of English reviews is 278. These trends are simi-

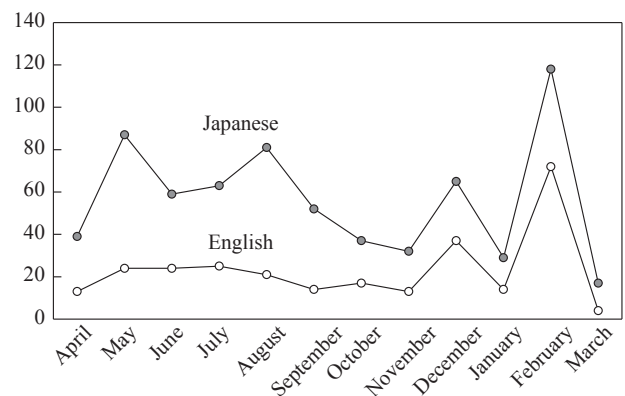


Figure 6: Trends of numbers of reviews in Japanese and English (Odori Park)

lar to the ones displayed in Figure 3. Both figures have their peak in February.

4.2 Correspondence analysis

Correspondence analysis enables the extraction of similar patterns of word usage from various texts. Nouns are important content words and can include proper nouns such as names of tourist attractions, person's names, and organization names. Therefore, nouns were used for this correspondence analysis in order to provide a sharper, livelier destination image of Odori Park through the year.

Figure 7 shows the result of correspondence analysis for Japanese nouns. Figure 8 shows the result of correspondence analysis for English nouns. The numbers in the graphs show months. In correspondence analysis, the words farther away from the center demonstrate more distinctive characters. In the Japanese result, Dimension 1 seems to show seasons or seasonal events, and Dimension 2 seems to show sightseeing objects. To find a destination image unique to Japanese tourists, the words “illumination (イルミネーション in Japanese),” “recommendation (オススメ),” and “projection mapping (プロジェクションマッピング)” were identified as distinctive words and the words around them in the reviews were searched to see collocation using the Keywords in Context (KWIC) concordance. In collocation statistics, “illumination” collocated with “beautiful,” “see,” “Christmas,” “winter,” “Snow Festival,” and “TV tower.” “Recommendation” collocated with “summer,” “period,” “white illumination,” “autumn fest,” “Christmas market,” and “lunch.” The word “projection mapping” collocated with “see,” “might,” “use,” “snow sculpture,” and “shinkansen.” Interestingly, in the context of “recommendation,” there were many tips for sightseeing in Odori Park. These can be said to indicate Japanese perspectives on enjoying Odori

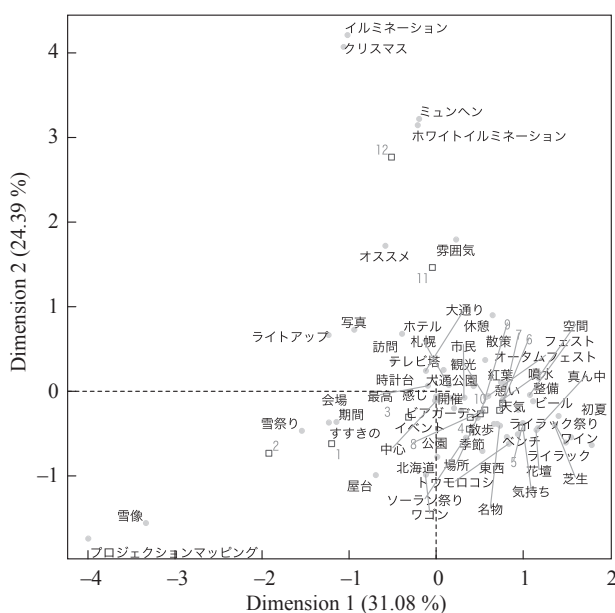


Figure 7: Result of correspondence analysis for Japanese nouns (Odori Park)

Park. The following sentences provide examples (since they were originally in Japanese, the word recommendation is not in noun form in the following English sentences):

- “During the Snow Festival this park is very crowded, so visiting just before the festival is recommended if you want to only see the snow sculptures.”
- “The view from the top of the TV tower is recommended.”
- “Visiting the clock tower, the TV tower, and Sapporo Station is recommended when you sightsee around this park.”
- “In summer, eating roasted corn at the park is recommended.”
- “The air ticket is very expensive during the Snow Festival. So coming to Sapporo for White Illumination period is recommended.”
- “When it’s not too cold and not too hot, it is recommended that you take a walk or relax on the lawn.”

In Figure 8, the result of correspondence analysis for English nouns is illustrated. Compared to the results for the Japanese-language terms, Dimension 1 seems to be the same, but Dimension 2 seems to show different ways of sightseeing such as “seeing” or “buying/eating.” The distinctive words are “Christmas market,” “market,” and “nothing,” which are different from the Japanese results.

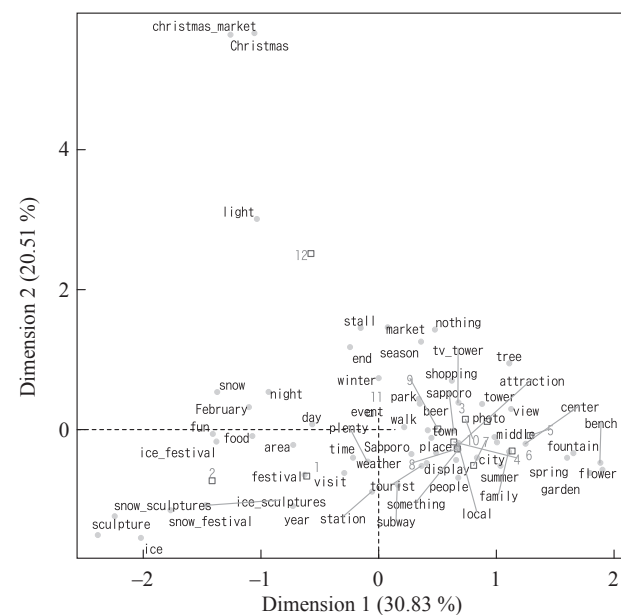


Figure 8: Result of correspondence analysis for English nouns (Odori Park)

In KWIC concordance results, “Christmas market” collocated with “Munich,” “German,” “white illumination,” and “make.” “Market” collocated with “fish,” “city,” “flower,” “sell,” and “food.” The word “nothing” collocated with “special,” “really,” “spectacular,” “much,” and “see.” In the English text, the tourists’ negative destination image of Odori Park was found to be grounded in this depiction of “nothing.” From the

Japanese co-occurrence network.

4.4 Official website

Sightseeing places are usually introduced in official websites created by tourism promoters such as local tourist associations and local governments. The tourist attractions or events that do not appear in the analysis but are introduced in the websites might be the ones tourism promoters want to spark tourist interest in or help them to get to know. It is possible to change tourists' impression of the spot or event by promoting it.

Sapporo City has an official tourism website operated by the Sapporo Tourist Association (<http://www.sapporo.travel/>). Table 1 shows the most frequent Japanese and English words in the pages introducing Odori Park in the Sapporo official website. The highlighted words did not appear in the correspondence analysis and co-occurrence network analysis, which means they were not included in the destination image of Odori Park. In Japanese, the word “jazz (ジャズ)” was not in the distinctive words or co-occurred words, and “beer garden” and “dancing” in English were not in the analysis. For Japanese tourists, “jazz” and for tourists from English-speaking countries “beer garden” and “dancing (yosakoi)” might be key words for promoting travel to Sapporo City or give them more satisfaction of Sapporo travel.

Table 1 : Frequent words in the Sapporo City official website in Japanese and English (Odori Park)

| Words | TF | Words | TF |
|--------|----|-------------|----|
| 札幌 | 16 | Odori Park | 19 |
| イベント | 12 | Sapporo | 17 |
| 会場 | 12 | event | 11 |
| 大通公園 | 12 | visitor | 8 |
| ライラック | 9 | festival | 7 |
| ビアガーデン | 8 | beer garden | 7 |
| 北海道 | 7 | Hokkaido | 6 |
| 祭り | 6 | beer | 4 |
| 開催 | 6 | dancing | 4 |
| 参加 | 6 | dish | 4 |
| 昭和 | 6 | food | 4 |
| 花壇 | 5 | month | 4 |
| 市民 | 5 | part | 4 |
| ジャズ | 5 | tree | 4 |
| 冬 | 5 | venue | 4 |
| ワイン | 4 | winter | 4 |
| 公園 | 4 | year | 4 |

5. Discussion and conclusions

In this study, the reviews posted on TripAdvisor were analyzed via a text mining approach in order to indicate the destination image of the tourist attraction, Odori Park, in Sapporo City as conceived by Japanese tourists and by English-speaking tourists from outside Japan. Even though the reviews were only from one travel review website, the differences in destination image between Japanese tourists and the foreign tourists (from English speaking countries) were extracted.

Correspondence analysis enabled distinctive words to be

indicated. Checking the context around the words or collocation of the words by KWIC concordance provided the destination image that emerged from tourists who subsequently wrote reviews or tips for traveling the place. By using co-occurrence network analysis, the patterns of network were different in Japanese and in English respectively. There were commonly appeared words in the Japanese and English reviews but the words co-occurred with the commonly appeared words were different. Juxtaposing these networks indicates differences in destination images of Odori Park held by Japanese and English-speaking foreign tourists. These might include interesting or surprising information for Japanese tourists or for foreign tourists. Not only using the word level of analysis but also checking the text of the review is important in gaining more usefully detailed information.

The information from tourists within the destination country (Japan in this study) and the information from foreign tourists (countries where English is the dominant language) might complement each other as well as the information that is recommended by the destination tourism promoters. In order to find the information, text mining approach is useful. This study showed the way to investigate the different perspectives of tourists by identifying words that have distinctive characters or words co-occurred with those distinctive words in the text data of reviews. It is important to see the context around the words in the review. There might be surprising information. Furthermore, to find the recommendation by tourism promoters, which is their perspectives, conducting interviews or using information from official pamphlets can be useful in addition to the official websites.

This study proposed a framework for comparing tourism destination images from three different perspectives: Japanese tourists, foreign tourists, and tourism promoters. Including the information from these three perspectives can provide a more powerful strategy for promoting the inbound tourism to Japan. By using the framework, a website of the tourist site can include the information about the distinctive tourism attraction identified by Japanese tourists, foreign tourist, and tourism promoters respectively in the official website or pamphlets for potential tourists.

Further research will necessarily conduct similar analyses on other foreign languages in order to provide fuller understanding of the differences of the destination image of a particular tourism location depending on a tourist's country of origin. Moreover, the reviews were collected from only one particular website. The reviews from other travel websites will be collected and combined with the reviews on TripAdvisor. Finally, analysis method will be considered further. In this study the reviews in Japanese and English were compared. The reviews in Japanese or other languages can be translated into English and the translated reviews can be used to compare with the reviews in English. It might be easier to see the differences of the destination images in one language.

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