

Comparative Study on the Effectiveness of Keyword Search Advertising to Provide Tourists Information

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Regional tourism is currently receiving a great deal of attention in Japan. When contemplating regional revitalization through tourism, an important key is to attract tourists more effectively at a lower cost. In this study, I conducted a survey on attracting tourists online and measured the effect. I displayed ads on search results of keywords related to regional tourism, such as “tourism Noto”, “Noto tourism”, and “Nanao tourism”, and used these ads to attract participants. First, I developed a website to introduce tourism and gourmet information about the Noto region. Then, I measured the percentage of visitors who visited a download (PDF brochure) site through the keyword advertising described above. The keyword advertising was classified into two categories, and the relative cost-effectiveness of each category was examined through a comparison.

Keywords: tourism, tourist information, keyword advertising, weblog

Introduction

In recent times, promotion of the tourism industry is being undertaken in order to stimulate the stagnating regional economies of Japan. Generally, the tourism industry is labor intensive and is expected to absorb some of the labor force in the regions. When contemplating regional revitalization through tourism, an important key is to attract tourists more effectively at a lower cost. Keyword advertising, which is a form of online advertising, can be one of the leading options. As Qiao, Zhang, Wei, and Chen (2017) pointed out, the competitive keyword advertising is currently emerging as a new type of advertising which attracts more and more attention from advertisers.

One of the most important merits that online advertising has, compared to other advertising media, is that it can be possible to measure its effectiveness in various ways (Kim, Park, Kwon, & Chang, 2012). The impact of online advertising can be measured by the communication effect, which indicates to what extent Internet users show their interest, and by the purchase conversion rate, which is the ratio of visitors who convert casual content views or website visits into actual purchases. In this study, I conducted a survey to measure the effectiveness and the cost of keyword advertising. As a specific study area, I chose Komaruyama Castle Park (Nanao, Ishikawa Prefecture), built by Toshiie Maeda in 1582. The park’s former name (Komaruyama Park) was changed in April 2014, and now Nanao city is undertaking the redevelopment plan around the park. Visits to the park have been declining, since 2009 (there were 7,588 visitors in 2013, whereas in 2009, there were 11,270). The majority of visitors come to view cherry blossoms (e.g., visits in April accounted for 46.8% of attendance in 2013).

Previous Research

As Sheldon (1997) noted, tourism is an information intensive industry. The size of the tourism industry alone suggests that it generates large volumes of information to be processed and communicated. The Internet has fundamentally changed the manner in which tourism related information is distributed and people plan for travel. Thus, keyword advertising has become significantly important in tourism as well as in other industries. Studies on keyword advertising in tourism emerged after 2010, and few have attempted to analyze data about keyword ads in tourism.

Xiang and Pan (2011) pointed out that search engine marketing is gaining the status of a major online marketing strategy for many destinations. Search queries are perhaps the most important behavioral aspect of the use of search engines. Keywords in travelers' queries reflect their knowledge about the city and its competitors. Xiang and Pan attempted to identify the patterns in online travel queries across tourist destinations, and offered insights for the manner in which tourism destinations are searched online and implications for search engine marketing for destinations.

Pan and Li (2011) examined the linguistic structure of destination image. They attempted to demonstrate the importance of niche keywords in search engine marketing, in order to establish the importance of niche phrases for tourism destination image (TDI).

Xiang and Gretzel (2010) investigated the extent to which social media appear in search engine results in the context of travel-related searches. The study employed a research design that simulates a traveler's use of a search engine for travel planning by using a set of pre-defined keywords in combination with nine U.S. tourist destination names. The analysis of the search results showed that social media constitute a substantial part of the search results, indicating that search engines likely direct travelers to social media sites.

Pan, Litvin, and O'Donnell (2007) analyzed 701 Excite.com accommodation search queries and suggested that travelers most often search for their accommodations simultaneously with other aspects of their travel, such as destinations, attractions, transportation and dining; and that most commence their search by seeking specific hotels in conjunction with their destination city.

Ayanso and Karimi (2015) used a unique cross-sectional dataset of the top 500 internet retailers in North America and empirically investigated the moderating effects of keyword competition on the relationship between ad position and its determinants in the sponsored search market. The empirical analysis indicated that the position of ads for web-only retailers is dependent on bid values and ad relevancy factors, whereas multi-channel retailers are more reliant on their bid values.

Although there are a large number of studies on online marketing today, there are few articles on the topic of tourism. I believe that this kind of research will play an instrumental role in tourism in the foreseeable future.

Methodology

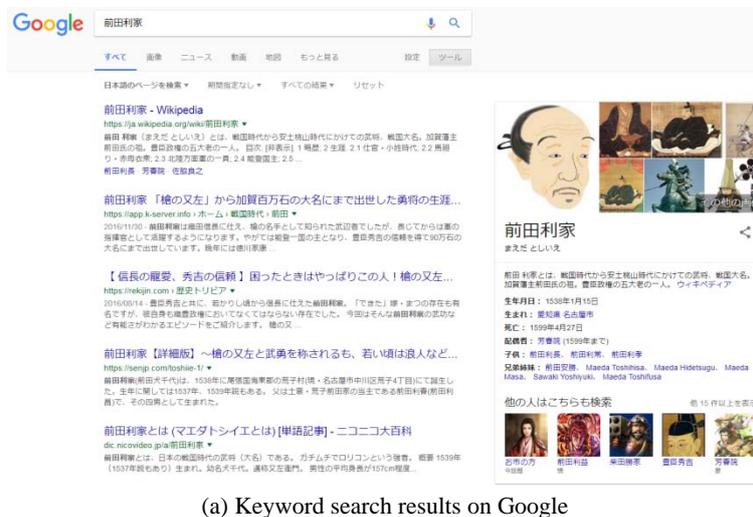
First, I developed a website to provide information on tourism and gourmet food concerning the Noto region (<http://noto-kankou.seesaa.net/>). Then, I measured the effectiveness of attracting visitors through access analysis using Google Analytics. When I developed the website, I used Seesaa's Blog because of the degree of customization required (see Figure 1).

There are 84 articles and 10 categories. In order to attract tourists to a specific destination, it is necessary to notify potential travelers of its presence. Therefore, I utilized AdWords, a pay-per-click advertising service that Google provides to advertisers, to display ads on search results of 37 total keywords related to regional tourism, such as “tourism Noto”, “Noto tourism”, and “Nanao tourism”. These ads were used to attract participants.



Figure 1. Website developed to provide tourism information.

The keyword ads included the park's name, the URL of its website (see Figure 2), and a brief description of the park. When visitors clicked on the ad, the website was displayed.



(a) Keyword search results on Google



(b) Keyword ads

Figure 2. Keyword search results on Google and keyword advertisements.

It should be noted that some keywords whose cost per click (CPC) was high were excluded. In this research, the word conversion (actions that advertisers want site visitors to perform) means the download of the Komaruyama Castle Park brochure (PDF) by visitors. I measured the percentage of visitors who visited a download (PDF brochure) site through the keyword advertising described above. The brochure consists of the park's history, map, and pictures (see Figure 3).



Figure 3. Brochure of Komaruyama Castle Park.

Results

I examined the visitors of the website utilizing Google Analytics. Table 1 shows the channels taken by visitors. The total number of visitors was 7,666 in two years (from January 1, 2015 to December 31, 2016). The most common channel was “Referral”, followed by “Organic Search”, “Direct”, and “Social”. The words “Referral”, “Organic Search”, “Direct”, and “Social” refer to visitors from other websites, search engines, bookmark on browsers, and social networking service, respectively.

Table 1

The Channels of Visitors to the Website

Channels	Visitors	Rate
Referral	4,535	59.2%
Organic Search	1,453	19.0%
Direct	1,055	13.8%
Social	623	8.1%
Total	7,666	100.0%

Figure 4 shows the transition of the number of visitors to the website in 2015 and 2016. The number of visitors fluctuated greatly depending on the month. Of course, changes in search engine algorithms, such as those of Google, might affect the fluctuation.

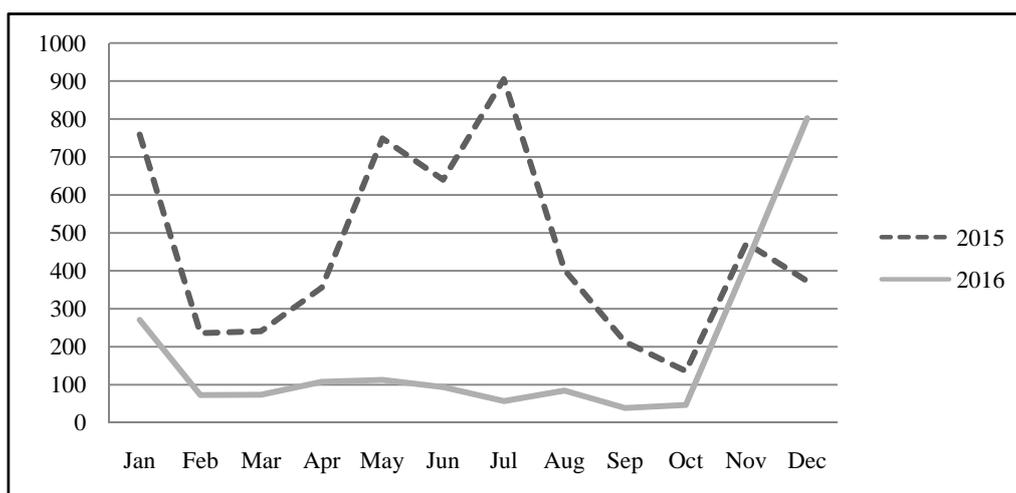


Figure 4. Number of website visitors in 2015 and 2016.

Table 2

Frequency of Ad Clicks and Conversion

Action	Frequency (times)	Rate (%)	CPC/CPA (yen)
Click of ads	961	0.15	73
Conversion	643	66.9	110

Note. Ad click rate = ad clicks ÷ ad impressions; Conversion rate = number of conversions ÷ ad clicks.

I conducted the survey on keyword advertisements twice. The first survey was conducted from January 20 to April 30, 2015, whereas the second survey was conducted from July 15 to July 18, 2017. The advertising cost was 70,427 yen. The limitation of the CPC was 250 yen. As a result, there were 961 ad clicks (see Table 2), whereas there were 661,592 ad impressions (the ratio of clicks to ad impressions was 0.15%). The CPC was 73 yen, and clicks that led to conversion occurred 643 times (cost per conversion averaged 110 yen).

Table 3

Frequency and Cost of Ad Clicks and Conversion in Two Ad Groups

	Total cost (yen)	Impression (times)	Ad clicks (times)	CTR (%)	CPC mean (yen)	Conversion (times)	CVR (%)	CPA mean (yen)
Ad Group 1	50,831	283,508	622	0.22	81.7	396	63.7	128.4
Ad Group 2	19,596	378,084	339	0.09	57.8	247	72.9	79.3

Note. CTR (Click Through Rate) = ad clicks ÷ number of ad impressions; CPC (Cost per Click) = total cost ÷ number of ad clicks; CVR (Conversion Rate) = number of conversions ÷ number of ad clicks; CPA (Cost per Action) = total cost ÷ number of conversions.

Considering each ad group, ad group 1, which was displayed for tourism-related keywords such as “Noto tourism” and “Nanao tourism”, cost 50,831 yen (see Table 3), there were 622 clicks (the average CPC was 81.7 yen). Ad group 2, which was displayed for keywords related to the region and history or to castles, cost 19,596 yen, and there were 339 clicks (the average CPC was 57.8 yen).

Comparing the cost-effectiveness of the two groups, ad group 2 was superior to ad group 1 in both the average CPC and the average cost per action (CPA). With respect to the CPC, group 1 resulted in 81.7 yen, and group 2 resulted in 57.8 yen. The CPA was 128.4 yen for group 1 and 79.3 yen for group 2. This can be attributed to the fact that because group 1 is comparatively easy to market, it tends to include costly keywords. Consequently, I presume the average CPC and the average CPA of ad group 1 were higher.

However, there does not seem to be much difference in conversion rates. Unless the intent is to attract visitors immediately, keyword ads like those used in group 2 might be advantageous. In other words, narrowing down the target visitors to those who are interested in a particular subject could pay off.

Let me focus on each keyword (see Tables 4 and 5). First, the ads of 14 keywords, such as “Nanao Café”, were not clicked (thus, conversions did not occur). The number of impressions for most of these words was less than 300. Considering that the total click rate was less than 2%, a mere lack of search volume might be the cause (keywords such as “Nanao Café” could possibly have been affected by a mismatch of the search purposes).

Regarding the conversion rate of each keyword, the rate of compound keywords, such as “regional + tourism” was comparatively high. Conversely, the rate of combinations whose purpose was presumably the search for information about other destinations, such as “Noto aquarium” and “Noto hot spring” was low. These tendencies can be found with respect to the CTR.

Table 4

Frequency and Cost of Ad Group 1

Keywords	Ad clicks (times)	Impression (times)	CTR (%)	CPC mean (yen)	Conversion (times)	CPA mean (yen)	CVR (%)
Nanao tourism suggestion	0	29	0.00	0	0	0	0.00
Noto suggestion	1	284	0.35	239	0	0	0.00
Noto tourism	12	3,532	0.34	141	9	187	75.00
Nanao tourism	5	749	0.67	124	6	104	120.00
Noto hot spring	0	15	0.00	0	0	0	0.00
Noto tourism suggestion	6	504	1.19	156	5	187	83.33
Noto autumn leaves	1	104	0.96	79	2	40	200.00
Nanao tourism spot	0	98	0.00	0	0	0	0.00
Noto Nanao	11	3,985	0.28	151	4	415	36.36
Shokusai market Nanao	1	85	1.18	144	0	0	0.00
Noto aquarium	5	696	0.72	110	2	274	40.00
Wakura hot spring tourism site	3	349	0.86	123	2	184	66.67
Noto tourism site	4	286	1.40	191	0	0	0.00
Wakura tourism	8	2,490	0.32	175	2	702	25.00
Nanao Shokusai market	0	56	0.00	0	0	0	0.00
Noto Nanao tourism	2	245	0.82	34	2	34	100.00
Nanao Shokusei market	0	42	0.00	0	0	0	0.00
Wakura tourism spot	0	80	0.00	0	0	0	0.00
Nanao market	0	155	0.00	0	0	0	0.00
NotoWakura hot spring	5	3,013	0.17	144	2	359	40.00
Wakura hot spring tourism spot	2	57	3.51	119	4	60	200.00
Hot spring Noto	4	3,565	0.11	228	1	911	25.00
Nanao tourism site	0	19	0.00	0	0	0	0.00
Nanao café	0	226	0.00	0	0	0	0.00
Nanao gourmet	1	849	0.12	164	1	164	100.00
Tourism in Noto	87	11,554	0.75	171	35	424	40.23

Note. CTR (Click Through Rate) = ad clicks ÷ ad impressions; CPC (Cost per Click) = total cost ÷ number of ad clicks; CVR (Conversion Rate) = number of conversions ÷ ad clicks; CPA (Cost per Action) = total cost ÷ number of conversions.

Table 5

Frequency and Cost of Ad Group 2

Keywords	Ad clicks (times)	Impression (times)	CTR (%)	CPC mean (yen)	Conversion (times)	CPA mean (yen)	CVR (%)
Komaruyama park	2	119	1.68	142	2	142	100.00
Komaruyama castle	1	50	2.00	57	0	0	0.00
Toshiie to Matsu Nanao	0	0	0.00	0	0	0	0.00
Nanao castle	12	594	2.02	110	8	164	66.67
Maeda Toshiie	24	4,684	0.51	116	11	253	45.83
Toshiie to Matsu	0	903	0.00	0	0	0	0.00
Nanao Maeda Toshiie	0	978	0.00	0	0	0	0.00
Noto castle	0	140	0.00	0	0	0	0.00
Noto Maeda Toshiie	0	0	0.00	0	0	0	0.00
Ishikawa pref. castle	5	920	0.54	129	4	161	80.00
Ishikawa pref. castle vestige	8	1,358	0.59	107	6	143	75.00

Note. CTR (Click Through Rate) = ad clicks ÷ ad impressions; CPC (Cost per Click) = total cost ÷ number of ad clicks; CVR (Conversion Rate) = number of conversions ÷ ad clicks; CPA (Cost per Action) = total cost ÷ number of conversions.

Considering the cost, there is a moderate correlation between impressions (the number of ads displayed) and the average CPC (see Figure 5). Likewise, a similar correlation between impressions and the average CPA can be found (see Figure 6). These facts indicate that the so-called “big keywords”, which offer many impressions, tend to be costly in the field of tourism. Thus, money can be saved by utilizing a number of “small keywords”. Similarly, keywords that market a product or service relatively easily, such as “hot spring”, also tend to be costly. It would be wise to avoid such keywords unless there is a need to produce results immediately.

Finally, through Google Analytics, I investigated the conversion rate of the case that had not used keyword advertising (from January 1 to December 31, 2016). The number of conversions was only 17, whereas the total number of visitors was 2,182. As a result, the CVR was 0.78%.

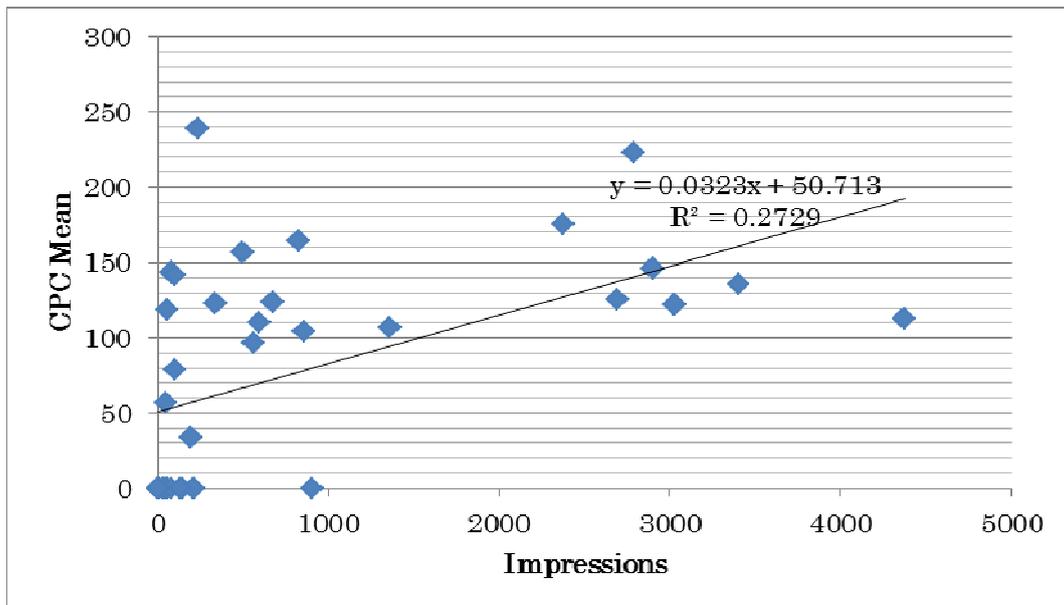


Figure 5. Correlation between impressions and CPC mean.

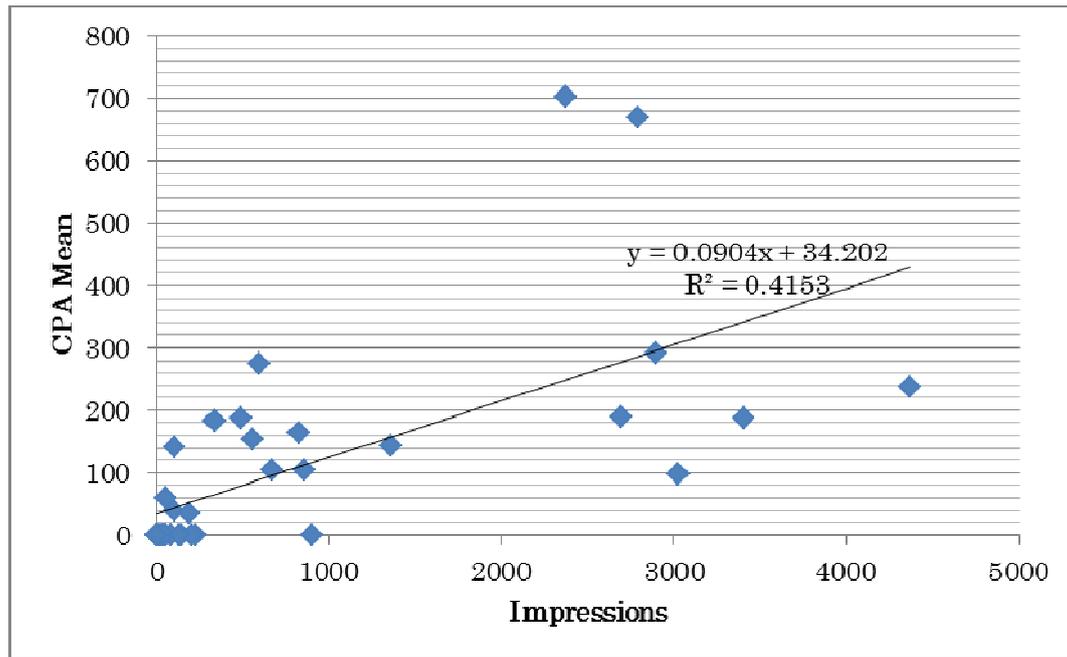


Figure 6. Correlation between impressions and CPA mean.

Conclusions

In this study, I developed a website to provide information on tourism and gourmet food concerning the Noto region and then measured the effectiveness of attracting visitors to it through keyword ads.

Comparing the two ad groups, ad group 2 was superior to ad group 1 in both the average CPC and the average CPA. Specifically, the difference between the average CPAs of the ad groups was only 49.1 yen. Adopting compound keywords like “tourism + region” is therefore useful when attempting to market a product or service in the short term. As is often mentioned, proper nouns are more likely to trigger responses.

The number of people who have actually visited Komaruyama Castle Park after clicking the ads is still unknown. If I can measure the number of such visitors by holding some events, an analysis of the practical effectiveness of the ads and the most effective combination of keywords will be possible.

Of the visitors to the website, 36.8% were from abroad (23.6% from English-speaking countries). Although most of these visitors are presumed to be expatriate Japanese, it is important to examine the characteristics of site visitors from foreign countries. Translating the content of the website into English and providing tourist information to foreign visitors will enable me to analyze the characteristics of keyword searches in English. Therefore, developing an English website may be a future challenge.

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