

The Effects of Travel Information Sources on Traveller's Resonance and The Travel Destination Decision-Making Process

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Abstract—In this paper, we propose a method to estimate the relationships between 'information acquisition' and 'decision-making'. The method used is based on the 'vacation sequences' described by van Raaij which consist of five stages: (1) general decision; (2) information acquisition; (3) decision-making; (4) participation; and (5) satisfaction or complaints. The method proposed in this paper focuses on steps (2) and (3), which involve active processes performed by a traveller. While performing information acquisition and decision-making processes, a traveller decides where to go according to his/her motivation for travel. These results should be guided by the degree of 'resonance' between the available travel information and his/her motivation. The detailed structure of resonance might be different from traveller to traveller due to each traveller's distinct personal characteristics. We assume that activities which involve destination determination are analogous to people's purchase behaviors as described by Howard's model. In this paper, we incorporate the steps from the purchase model into steps (2) and (3) by expanding them appropriately to propose a new model with two elements for information acquisition and three elements for travel destination recognition. The strengths of resonance are measured for steps (2) and (3) as the external information and their relationships are examined.

Keywords—Travel-destination information; empathy; motivation; decision-making.

I. INTRODUCTION

In this paper, we focus on the relationships between information sources available to the traveller and how well they resonate with him/her in order to understand how these resources affect his/her destination decision-making processes.

Since the 1990s, the Japanese government has placed emphasis on tourism by initiating such programs as 'Welcome Plan 21 (1995)' and 'Visit Japan Campaign (2003–)' for foreign visitors, or 'Egg of Columbus (2002–)' [1] for domestic visitors. In response to these programs, many regions in Japan have begun to share information on regional tourist destinations via information media such as 'analogue' booklets and/or 'digital' web pages. As the amount of tourist information from a variety of sources increases, it becomes easier for tourists to obtain the necessary information to make decisions concerning their tours. On the other hand, these diverse sources with distinct characteristics in terms of the types of information each conveys may have different effects on decision-making processes as each tourist may have a different processing strategy or preference for information receipt. This should be supported by the following observation. With the growth of the Internet, it is reported that within the current generation

(often called the 'smart phone native generation'), the number of cases in which travellers made decisions regarding travel destinations based on information they found on the Web (either from enterprise or past travellers) has increased. As a result, the information provided by travel information sources on the Web can have a tremendous impact on the travel destination decision-making process. We assume this diverse information resonates with their travel destinations, and this resonance offers a strong motivation to travel.

In previous study, the role of social media, such as twitter or blog discussed in the viewpoint of the relation between information flow and construction of human network.

In our research, we treat consumers' information in the Internet with words of mouth. In the Internet world, all Internet users can send information with their viewpoints. Recently, social media spread rapidly, and it makes virtual human connection via users' own murmur, which regards as words of mouth. In the sense, words of mouth is the information provided by consumer without seeking benefit. SNS is a service which promotes connection between people through comments or picture provided by them.

From these behavior, SNS provides words of mouth in the Internet, and it has impact on consumer who want to buy new products.

In this paper, we propose a method for estimating the impacts of the strengths of resonance between a traveller's personal characteristics and travel destination characteristics on the motivational aspect of the travel destination decision-making processes. This includes the motivation behind the decision on which destinations to visit, traveller's use of different information sources for leisure travel plans, and the information from enterprises or past travellers. We constructed the method by applying the following two processes: (1) measure travellers' personal characteristics to identify distinct decision-making categories, (2) measure the relationship between the type of information acquired and travel destination recognition in terms of the degree of 'resonance' between them. These results and the 'travel destination decision-making process' introduced by [2] are combined to estimate the effects of travel information sources on traveller's resonance and travel decision-making processes. In Section II we introduce the basic theory that this paper is based on and related works. In Section III we explain the method for measuring resonance derived from acquired information types and travel destination recognition. In Section VI we summarize the proposed method and describe the future plan.

II. RELATED WORKS

In this section, we introduce related works with several topics.

A. Importance of the Internet study for tourism

The Internet is said to be important for marketing to attract people. Research on tourist destinations using social networking services (SNS) was studied by Milli [3]. The research target was the Split-Dalmatian County in the Republic of Croatia. This county has been using their own website for advertising since 2008 and they have had a presence on Facebook since 2010. The Facebook advertising campaign was recognized in other countries: Germany, Austria, the Czech Republic, Hungary, and Slovenia. This campaign triggered an increase in the total number of website fans from 5900 to over 10,000. This indicates the importance of the Internet and SNS for tourism. But the difference of influence on the words of mouth through websites and SNS is not clear.

B. Word of mouth

Word of mouth has been studied frequently in recent years. With growth of the Internet and SNS, word of mouth is an anticipated marketing method. Michael and Jeremy [4] studied word of mouth through the American buzz marketing site Yelp.com on which users evaluate restaurants. According to the results they obtained, restaurants increased their number of reservations by 19 percent when they received an extra half star rating on the site. This result indicates that information spread through word of mouth can possibly influence decision making. Judith and Dina [5] also studied word of mouth through Amazon.com and bn.com. They found that one-star reviews have a greater impact than five-star reviews on the same site. These two previous studies indicate that reviews have significant impacts on either increasing reservations or book sales. We already know that word of mouth has a tremendous impact on purchasing. However, we do not know how effective it is in the travel field. Also, the difference of influence from HP is not clear. Therefore, we investigated this using the information provided by enterprises and consumers.

C. Resonance

Resonance is one of the important factors used in previous studies on decision making [6]. The Model Human Processor with Realtime Constraints (MHP/RT) reacts to input from external environments and internal generated input to make decisions and select action at any moment. MHP/RT processes four types of events: future events (consciously or unconsciously) or a past events (consciously or unconsciously). In the process of 'past/conscious', by reacting to activated pieces of knowledge through resonance processes, it reflects on and elaborates on a certain symbolic event. In our study, we positioned resonance as the positive or negative emotional result achieved when a person receives information or knowledge. Previous studies on the influence of SNS primarily focused on its characteristics such as how it can be used for global advertising or on its technical aspects. However, there are very few previous studies that have focused on personal characteristics in terms of SNS information. Therefore, our investigation centered on both personal characteristics and information source characteristics.

D. Travel destination decision-making process

In order to understand travellers' resonance and motivation(s), we described the travel destination decision-making process by incorporating Shimizu's [7] model of the purchase decision-making process into van Raaij's 'vacation sequence' [8].

Shimizu compared the information provided by consumer and the information provided by enterprise on observing purchasing behavior. Previous study indicated that the information provided by consumer does not play a big role on products recognition. But Shimizu suggested that the information provided by consumer was effective on the stage of products recognition. We considered travel action as one of purchasing behavior and we observed them. Our consideration is that information provided by consumer also has a big impact on the unknown place.

When describing the travel destination decision-making process, we assumed that the person already had the desire to travel in order to better describe the process between the information acquisition and decision-making stages. Selecting the travel destination is generally treated as a purchase behavior. This makes the travel destination decision-making process easier to understand based on the ideas suggested for information processing in the purchase decision-making process. Howard's model is one of the most well-known purchase behavior models and it shows the decision-making process that leads to the purchase behavior after receiving external information as a source of stimulation [7]. Moreover, Howard's model is a comprehensive model for predicting consumers' action [7]. In [7] Shimizu expands Howard's decision-making model in terms of the source of the information. When incorporating Shimizu's model into van Raaij's 'vacation sequence', we considered two sources of information as equally important: consumers (i.e. previous travellers) and enterprises (e.g. travel agencies, travel destination sites, government sites, etc.). The travel destination decision-making process as we described it consists of the following elements: 'certitude', which represents the traveller's self-confidence in how much he/she will enjoy traveling based on the travel information he/she received; 'attitude', which represents the traveller's attitude towards the travel destination based on the travel information he/she received; and 'travel destination recognition', which represents the traveller's recognition of a destination as a travel destination after receiving (travel) information. (These depend on description of [7] Figure 1 shows a part of the travel destination decision-making process. In the work presented here we assume that the travel destination decision is made based on the motivation that results from the strength of the traveller's resonance. Traveller's resonance refers to the traveller's action for resonance when they obtain travel information. What is more, the traveller's resonance can be influenced by personal characteristics (e.g. travellers' formative experiences, travel objectives, etc.) when he/she is provided with various kinds of information regarding travel destination candidates (e.g. their function, contents, etc.). The strength of the resonance is considered an important factor when deciding on the travel destination. Knowing the strength of the resonance and understanding the relationship between the personal characteristics of the traveller (e.g. formative experiences, travel objective), the environmental characteristics of the travel destination (e.g. its function, contents, etc.), and the acquired information (provided by consumers or enterprises) can help determine how to effectively attract individuals to travel destinations. (The table

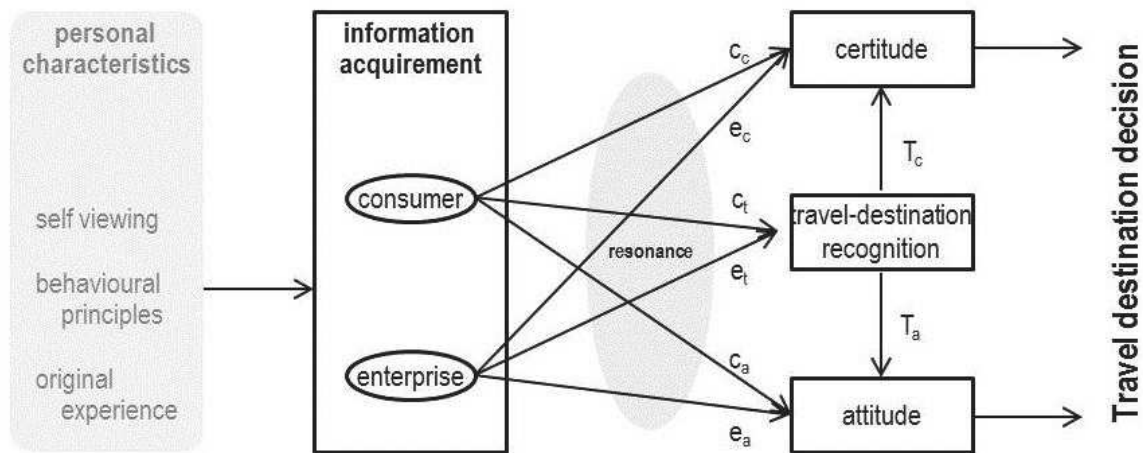


Figure 1. A part of travel destination decision-making process

of resonance presents this relationship and the resulting resonance.) Here we will focus on the travellers' resonance during the travel destination decision-making process, especially from the information acquisition stage to the travel decision stage. We will consider the strength of each element shown in Figure 1. First, let's discuss the meaning of letters. In here, *c*, *e*, and *T* indicate consumer, enterprise, and travel destination recognition. The suffix *c*, *t*, and *a* represent certitude, travel destination recognition, and attitude. (e. g. *c_t* indicates the resonance from consumer to travel destination recognition). The resonances are the strength of connection between each element shown in Figure 1. (*c_c*, *e_c*, *c_t*, *e_t*, *c_a*, *e_a*, *T_c*, *T_a*) These strength of resonances result from the combination of personal characteristics and environmental characteristics. Thus, we need to measure travellers' personal characteristics. They cannot be measured by numbers. Therefore, we need to conduct the experiment based on psychology.

E. Study 1 Travellers' Personal Characteristics

In order to better understand travellers' personal characteristics as they relate to the travel destination decision-making process, we conducted a questionnaire with 43 questions, in both open and closed format. This questionnaire was administered to 165 students in Nagaoka city (Niigata Prefecture).

The questionnaire is consisted with the following question items regarding to personal characteristics of travellers. 1) view of self (independent or interdependent)[9] 2)potential travel objective[10] 3)previous travel experience(s), (type : either family/friends or independent, objective : chosen from stimulation, cultural observation, communicate with local people, restore/improve health , have a new/unpredictable experience, experience nature, self-improvement, and develop personal relations, place, duration of travel 4)desires regarding future travel experiences(Except for duration, same items as 3)).

The objectives could be categorized into four factors by factor analysis. There were positive correlations between 2 of factors: 'expanding original experience' and 'have a new/unpredictable experience' and 'individual recognition' and 'the strength of assertion'.

We attained the following results. For past experiences, most of the participants travelled with their families or friends. Since the participants were young (15 to 20 years old), it is suggested that past travel experiences were mostly family or school trips. For the influence of past experience, the travel objective for past experience and future desired travel was matched. It was considered that the past experience became an anchor to make a decision. These results indicated that characteristics have some influence on decision making.[11]

In our study, we choose group of highly educated students as survey participants because they frequently use the Internet or SNS, so they have very small psychological and physical resistant for IT technology.

F. Study 2 Information acquisition and Resonance

In study 2 we investigate the strength of the connection between certitude, travel destination recognition, attitude; and travel intention when they receive travel information from different sources, enterprise or consumer(i.e. other travellers).

We considered travel action as one of purchasing behavior and we considered both of information provided by enterprise or consumer as travel information sources. From Shimizu's study, she showed that there is a big impact from the information provided by consumer on the products established as a bland. So we predicated that the information provided by consumer is also stronger for the unknown place and it may show similar results.

Procedure: To measure the effects of travel information sources on traveller's, we prepared two kinds of stimuli, which were related to cultural objective. Each set will consists of the following: Two pictures of the same travel destination(already known place and unknown place), one from the public website of the specific travel destination (enterprise) and the other from a traveller's Twitter account (consumer).

We consider that the combination of source of the travel information and travel destination as shown in Table I have a different effect on the strength of the traveller's resonance. We focused on two of travel destination(already known place and

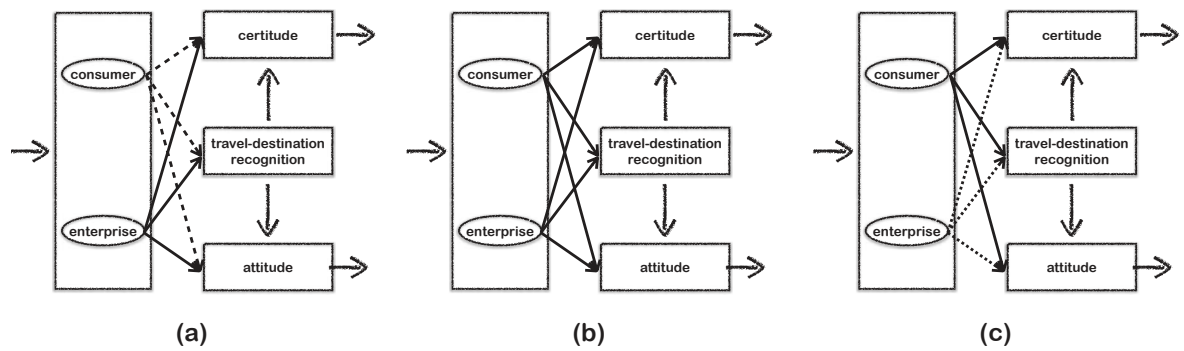


Figure 2. (a) visit historical sites, (b) experience nature, (c) stimulation

unknown place) because already known place and unknown place is on different situation that already known place is already constructed as a bland, but unknown place is ongoing to consist as a bland. So we considered that 2 of the travel destination also influence on traveller’s resonance.

Question details: The items of the questionnaire was as follows. 1) Questions on participants’ knowledge: This question asks whether or not the participants are familiar with the travel sites. 2) Questions on travel destination recognition: This question asks what information (provided by the enterprise or consumer) is a frequent source for new information for travel destination. 3) Questions on certitude: This question asks what information (provided by enterprise or consumer) invokes more confidence in the estimated value of the travel destination. 4) Questions on attitude: This question asks what information (provided by enterprise or consumer) suggests that the travel destination is a good place to visit. 5) Questions for intention: This question asks what information (provided by enterprise or consumer) invokes a desire to visit the travel destination. 6) Questions on satisfaction: This question asks what travel objectives will be satisfied from the travel information provided.

Through this method, we will estimate the relationship of resonance in terms of the source (enterprise vs. consumer) and the obscurity (already known place vs. unknown place). We conducted a questionnaire with 5 point scale of -2 to 2. We gave participants two pieces of information provided by enterprises and consumers. The objective was selected from the first survey. We focused on investigating of cultural observation. We analyzed travel intention by using a chi-square test. We attained the following results. For already known sites, participants attached more weight to the information provided by enterprises than that from consumers. For unknown sites, participants used both types of information. We considered that for already known sites, participants would like proper knowledge of the sites. For unknown place, participants would

like to gather information including proper knowledge from the enterprises and comments from consumers who previously traveled there.[12]

III. THE RELATIONSHIP BETWEEN THEIR DESIRE AND INFORMATION ACQUIREMENT : ON THE VIEW POINT OF RESONANCE

Combining both results of study 1 – their objective for future desired travel – and study 2(resonance), we analyzed the relationships in terms of their characteristics(the objective for future desired travel) and travel information sources(enterprise/consumer).

We extrapolate about the connections for each of the objectives on which we focused. We believe that we will attain the following results as shown in Figure 2 (a) to (c). Each figures consists of two blocks: information resource (enterprise and customer) and travel destination recognition. These blocks are generated by the balance of certitude and attitude. Three lines are shown in Figure. 2: the dashed line, narrow line, and thick line. Hence, each line is defined as follows: the narrow line represents a normal strength of resonance, the dashed line represents a weak strength of resonance, and the thick line represents remarkable strength of resonance. This figure indicates the strength of resonance between the information (enterprise and consumer) and elements (certitude, attitude and travel destination recognition). If the travellers’ objective is to ‘cultural observation’, then their resonance will be indicated as having remarkable strength based on the information provided by enterprise, as they would like to have reliable historical information. This suggests that their condition would be represented as shown (a) in Figure. 2. If the travellers’ objective is to ‘experience in nature’ then their resonance will be indicated with almost equal strength for both information sources. They may want to know how good this site is from travellers who have previously visited the place, while they also want detailed information such as what kind of flowers can be observed. In this case, their condition would be represented as shown in (b) in Figure. 2. Finally, if they wish to travel without certain travel information provided by the enterprise in order to have a stimulating experience, their resonance will be indicated by remarkable strength for the information provided by consumers. In this case, their condition is represented as (c) in Figure. 2. In (c), the role of consumer’s information is very important. Consumers’

TABLE I. THE PATTERNS FOR QUESTIONNAIRE. E REPRESENTS “ENTERPRISE” SOURCE, AND C REPRESENTS “CNSUMER” SOURCE

Travel objectives	Already known		Unknown	
	E	C	E	C
Cultural observation	A1	A2	A3	A4

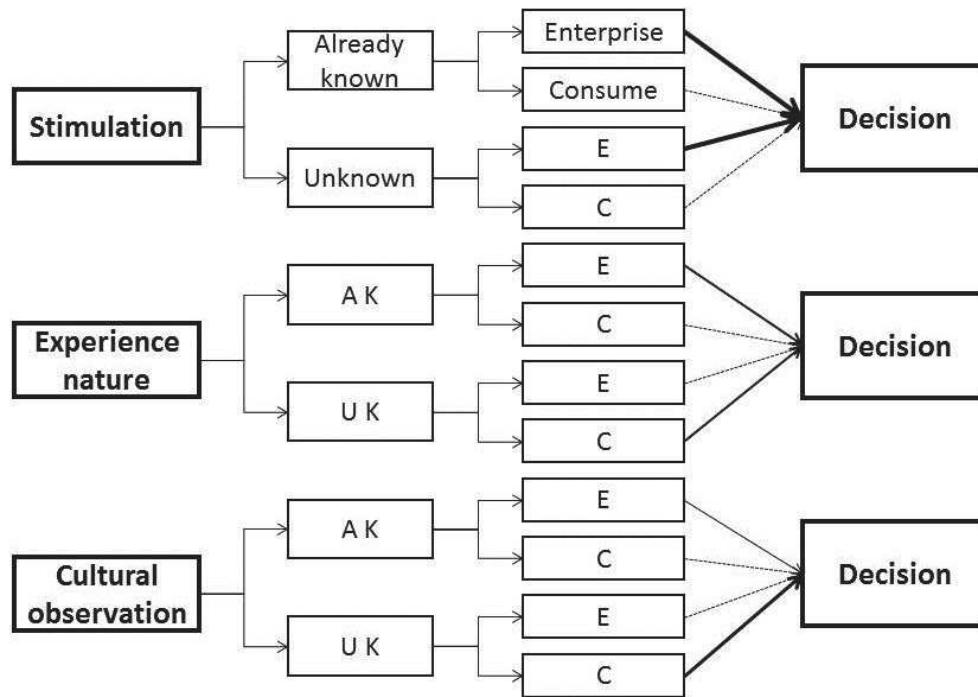


Figure 3. The result of the strength of resonance

TABLE II. THE RELATION BETWEEN SURVEY 1 AND 2

The objectives	Already known place	Unknown place
Stimulation	0.333	0.333
Experience nature	0.167	-0.333
Visit historical sites	0.100	-0.200

information is aggregated by many methods, but most popular way is social media. Currently, many people are able to update their comments, photos, videos, or audios on the Internet. They submit this content to blogs, Facebook, or many kinds of social media. Most social media contents can be searched with ease by Internet users. In a sense, social media is one of useful ways to aggregate consumers’ tourism contents. This means the information acquirement layer in Figure. 1 is tremendously diverse and there are many resonance patterns found in the information. Hence, observing travellers’ resonance patterns is important to estimate the travel destination decision-making process.

For conducting surveys, we followed the research ethics guide line published in Nagaoka University of Technology.

IV. RESULTS

First we separated participants data(survey 1) with the objectives(future desired travel) of stimulation, cultural observation, and experience nature. We calculated the average points of survey 2 and we compared each of them. The results are shown in Table II and Figure 3.

In Figure 3, “A K”, “U K”, “E” and “C” represent Already known, Unknown, Enterprise and Consumer. In the figure, there are four levels of thickness for directional line; from

thickest to thin, these represent more than 0.3 points of average score, from 0.2 to 0.3 points of average score, from 0.1 to 0.2 points of average score. And dashed directional line represents less than 0.1 points of average score. Although not observed significant difference for subjects was small, following trends were observed. 1) Participants whose objective was stimulation had more intention from the information provided by enterprise in either already known and unknown place. 2) Participants whose objective was experience nature had more intention from the information provided by enterprise for already known place and had more intention from the information provided by consumer for unknown place. 3) Participants whose objective was cultural observation had almost same results of the objective of experience nature. But for the participants whose objective was cultural observation got weaker result.

V. DISCUSSION

In this section, we discuss resonance reactions that were observed in our two participants groups: stimulation and cultural-observation-participants.

A. Resonance reactions by stimulation-participants

The degree of resonance shown by the participants who had the objective of “stimulation” was stronger toward enterprise-information than that of resonance toward Twitter. The result was true for both already-known-place and unknown-place.

Firstly, resonance would not occur when there is mismatch between the provided information content and the interest that a participant has. And therefore the stimulation participants showed little resonance toward the contents related to the objective of cultural observation.

Secondly, the amount of information provided by enterprise-information was richer than that provided by SNS. The former uses such media as bigger pictures, texts with a lot of words, and so on. Stimulation would be positively related with the amount of information. And therefore the stimulation participants showed stronger resonance towards such enterprise-information.

B. Resonance reactions by cultural-observation-participants

The degree of resonance shown by the participants who had the objective of "cultural observation" was stronger toward consumer-information such as Twitter than that of resonance toward enterprise-information about unknown-place.

As described before, the necessary condition for resonance reaction is the provision of matched information. A participant would examine the information he/she is interested in and he/she might induce a big resonance. However, even if the provided information matches the interests of the participant, it is not enough to induce resonance reaction: if the provided information does not have any useful and valuable "new" information to him/her, it should be estimated as worthless because it just provide the opportunity of just checking his/her experience of 'having been the place' and little resonance would be induced. We had the results that this is true for HP and SNS for already-known-place.

On the other hand, we found that cultural-observation-participants showed stronger resonances with the information provided by "consumer without seeking benefit" for unknown-places. This is because the participants had tendency to rely on the information provided by "consumer without seeking benefits." In sum, the cultural-observation-participants resonated differently depending on the nature of the information, whether it is about already-known-place or unknown-place. This result is consistent with the one provided by Shimizu[7] who studied purchasing behavior.

VI. SUMMARY AND FUTURE WORKS

In this paper, we explained the travel destination decision-making process in order to understand how travellers decide upon their travel destination. Travellers need to be motivated to travel. We assumed that the motivation is provided by the strength of resonance. It was suggested that personal characteristics need to be investigated in order to understand the travellers' travel destination making-process. In the process, we focused on the information acquirement process and travel destination making-process. Between these two steps, humans have many thoughts, but they are biased by human personal characteristics for information acquirement process, and many levels of resonance based on information type or contents itself. Considering this, we propose a method for measuring the effects of resonance strength on the relationships among destination decision factors. Our method is the means to acquire the diversity derived human and to estimate travel destination decisions. We administered the questionnaire to 165 students from Nagaoka city who are fluent in Japanese (not all were Japanese), under the supervision of their class advisors. We gave them two types of pictures based on information from the following combinations: enterprise, consumer, already known place, or unknown place. We focused on investigating travel intentions for cultural observation. We received the following results. For already known sites, participants attached more

weight to the information provided by enterprises and for unknown sites, participants regarded both types of information equally. Finally, we conducted an analysis of the relationship between survey 1 (characteristics) and survey 2 (resonance). We attained the following results. The participants whose objective was stimulation attached more weight to the information provided by the enterprises. The participants whose objective was to experience nature and cultural observation attached more weight on to the information provided by consumer on the unknown sites.

Our future work will be the investigation of resonance of the people whose objective is stimulation, cultural observation or experience nature when the travel information which has a characteristics of stimulation or experience nature was given.

Also, the study group for this study was limited. Thus, we will conduct survey with considering age, gender, occupation and etc.

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