



Interview Survey Method for Extracting Cultural Trait Applicable to Concept Design

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Abstract. Proposal of interview survey method to extract cultural traits applicable to concept design using disaster prevention a case study.

Keywords: Cultural trait · Interview survey method · Concept design

1 Introduction

In recent years, the number of foreigners entering Japan is expected to increase. However, unlike Japanese people, foreigners have had few disaster experiences. In addition, it is pointed out that their awareness of implementing disaster prevention measures is weak because they have hardly participated in disaster prevention education and are not good at Japanese. Participation of disaster prevention measures and local disaster prevention activities by foreign residents in Japan is an important theme for reducing disaster damage. In disaster-prone Japan, the development of disaster prevention applications is indispensable for disaster prevention measures. In particular, there is a need to develop for users with different cultures. Therefore, it is necessary to design a disaster prevention design that takes into account the cultural traits of users with different cultures.

What are the most important actions to take into account the cultural traits of an affiliate design? The human-centered design process (ISO9241-210) states that “products, systems, and services are designed to take into account the people who use them and the parties affected by their use” [1]. To the statement. It is important how to use the service in order to consider the cultural traits, that is, to clarify the cultural traits of the target user. Therefore, it is necessary to conduct user surveys to clarify the cultural traits of users who have different cultures, and this is a very important role. However, because it is difficult or difficult for designers and developers to spend a lot of time in the research phase, there is a need for a short and efficient user research. Therefore, it is considered that one of the most appropriate methods is the interview survey method that can be obtained efficiently through conversations with the parties.

In this research, when designing an application targeting users with different cultures, it is necessary to extract cultural traits more efficiently in a shorter time. Therefore, cultural traits applied to the concept design for disaster prevention

applications are considered as examples. The purpose of the present invention is to propose an interview research method for extracting the information.

In proceeding with this research, we will define cultural characteristics. Cultural traits are values that are invisible to people who share or understand the culture, such as the way of thinking, feeling and acting. It can be said that it is worth deciding the way of thinking and behavior of the user [2]. And, it targets the cultural characteristics that each person has in the area of the region, family, and interpersonal relationships. To identify common features and differences when comparing the cultures of two or more countries and regions, and to clarify the cultural characteristics. Cultural characteristics that can be applied to a concept design that provides value to users are values that take into account the commonalities and differences of each country or region.

2 Previous Research

Quensenbery and Szucs “Global UX” book is listed [3]. The Global UX book describes how to think about user experience from a global perspective. In order to clarify cultural traits, it is important to focus on the common points and differences between countries and regions.

One of the interview methods, the cognitive interview, is a method that applies the concept of the investigation interview method developed by the police in England [4]. As a characteristic, the scope of the interviews is not limited to the current situation, but also includes the past, what we have thought from the past, and future expectations and anxiety. In addition, it is possible to listen to a story starting from a time series or “connection” with a person, and to hear that the person is “positioning” in space.

3 Proposed Design Approach

Based on previous research, it was found that cultural traits can be clarified by extracting commonalities and differences between countries and regions. In addition, since the lifestyles and behaviors of users with different cultures are different, common points and differences are extracted from the behaviors and emotions of the users according to the time axis. It is thought that the value can be clarified based on the extracted common points and differences.

In order to extract the cultural traits applicable to the concept design, the interview survey method uses the interview survey method based on the Six Ws (When, Where, Who, What, Why, How) context. The purpose is to extract cultural traits efficiently for users with different cultures in a short time.

Six Ws context-based interviews investigate the time, place, surroundings and user behavior of the events experienced. To make it easier to extract value from past events, we created a “User Survey Sheet” for use in interviews. The specific interview method based on the Six Ws context is as follows.

- (1) The theme is the experience you have ever experienced. For example, in the case of disaster prevention application, set “Disaster prevention experience”.
- (2) Fill in the experiences according to the theme specifically using the user survey sheet. Ask Six Ws to fill out details about who, when, and where.

- (3) Ask the user survey sheet to fill in the user’s actions and feelings based on the time axis and their reasons.
- (4) Interview semi-structured based on the contents written on the user survey sheet.
- (5) Analyze based on the user survey sheet and interview contents that were filled out, and extract common points and differences. Create a concept based on the extracted common points and differences.

3.1 Experiment for Proposed Design Approach

The purpose of the evaluation experiment is to verify the effectiveness of the interview survey method for extracting cultural traits using interviews based on the context of Six Ws.

In order to verify the proposed interview survey method, we interviewed Japanese and Chinese about disaster prevention experience using a case study of a disaster prevention application. The subjects were five people in their twenties from Japan (subjects: A, B, C, D, E) and five people in their twenties from China (subjects: F, G, H, I, J). Created a user survey sheet based on the user’s actions and emotions based on the time axis of “before meeting the disaster”, “when there was a disaster”, and “after the disaster” of the disaster prevention experience as a case of the disaster prevention application did. Table 1 shows the question items on the user survey sheet.

Table 1. User survey sheet on disaster prevention.

Disaster experience in Japan <input style="width: 95%; height: 20px;" type="text"/>	About actions and feelings at the time <input style="width: 95%; height: 20px;" type="text"/>
Status of disaster experience in Japan When <input style="width: 60px;" type="text"/> with Who <input style="width: 60px;" type="text"/> Where <input style="width: 60px;" type="text"/>	Why <input style="width: 95%; height: 20px;" type="text"/>
About the situation around us when there is an earthquake <input style="width: 95%; height: 40px;" type="text"/>	After the earthquake, awareness of the earthquake Why <input style="width: 95%; height: 20px;" type="text"/>
	After an earthquake, about disaster prevention measures Why <input style="width: 95%; height: 20px;" type="text"/>

3.2 Result of Evaluation Experiment

The purpose of Based on the interview results based on the Six Ws context, the user’s intrinsic value was extracted from events. For Japanese and Chinese subjects, the results are summarized for “before the disaster occurred”, “when the disaster occurred”, and “after the disaster occurred”.

Subject A was panicking as people were gathering on the stairs to descend on the first floor when the Great East Japan Earthquake struck. After the disaster, I tried to keep communication clear. Also, I came to worry about the safety around me.

Subject B had shaken furniture and apartments during the earthquake. As an action at that time, I suppressed the TV when it was about to fall. I opened the front door because I was in trouble if I was trapped in the room. As a post-disaster measure, TVs and furniture were re-installed so that they would not fall.

Subject C had his house roof broken and his car swept away. His actions at the time were to first secure water and go to a nearby relative. I wasn't surprised because I got used to the earthquake. We do almost nothing as a post-disaster measure.

Subject D was driving and stopped. At that time, I didn't do anything because I thought it would be safer to sit in the car. I saw that the road was broken, so I knew it was not always safe to be in the car. As a countermeasure after the disaster, the ground has been carefully monitored.

Subject E shakes slowly and falls down, such as a book. The behavior at the time was that I first entered the futon, but the shaking became bigger. Opened doors and windows so that they could not be trapped. After watching the tsunami disaster on TV, I realized that it would be better to go to a higher ground after the earthquake. As a countermeasure after the disaster, the area where we lived became a "planned power outage", so we tried to save power.

Subject F did not stop shaking. As an action at that time, I got under the desk because I had evacuation knowledge that I was taught in Japan. Then he went out to the courtyard and evacuated according to the teacher's instructions. I was notified after the earthquake, so I could not predict the earthquake and thought it was difficult to prepare. As a countermeasure after a disaster, they are always equipped with emergency water and food.

Subject G was warned of the earthquake by a smartphone notification. The water in the glass shook due to a large shake. One of the actions at that time was panic, so I couldn't take action and left the house in a hurry one minute later. This was my first experience of a big earthquake, so I was scared and couldn't do anything. We still have no idea what to do as a post-disaster measure. I want to be with someone for the time being.

Subject H was swaying with a smartphone alarm. The action at that time was to leave the house for personal safety. I investigated the earthquake in detail. I learned that there were collapsed buildings and aftershocks. As a measure after a disaster, keep away from large furniture. Prepared emergency supplies.

Subject I sounded a smartphone alarm. At that time, he fled to the nearest evacuation center as instructed by the announcement. We investigated knowledge and information about disaster prevention. As a countermeasure after the disaster, I did nothing especially as the furniture was not broken or injured.

In Subject J, the windows and the like were shaking. The action at that time was waiting for the earthquake to subside. I'm scared at the beginning of the shaking because I don't know if it's a big earthquake. As a post-disaster measure, we want to escape to a shelter if a large earthquake occurs, so check the shelter.

3.3 Consideration of Evolution Experiment

In the evaluation experiments, we used interviews based on the Six Ws context to verify whether cultural traits applicable to concept design could be extracted. Common points and differences were extracted from the results of the "User Survey Sheet on Disaster Prevention Experience" of Japanese and Chinese subjects (Tables 2, 3 and 4).

As a common point between Japanese and Chinese at the time of a disaster, it is strongly recognized that it is important to move to a safe place as soon as possible at the

time of a disaster. And “The value of reducing the time required for evacuation”. Regarding the differences between the Chinese, it was understood whether the experience of disaster prevention or the importance of getting help from others, such as following an evacuation order from one person, is important. The difference between Japanese and Japanese was that they valued contact with their families and confirmation of their home situation. The Japanese may not be interested in disaster information on a regular basis, but they may be more concerned about evacuation equipment.

Table 2. Analysis sheet of Japanese and Chinese values before the earthquake.

Chinese					Japanese					Before the earthquake	
A	B	C	D	E	F	G	H	I	J	Common point	
●									●	●	Value for security
			●					●			Value to raise disaster prevention awareness
A	B	C	D	E	F	G	H	I	J	Difference	
				●							The value of providing an evacuation route
	●										The value of relying on others
		●									The value of reducing evacuation time
		●									The value of evacuation behavior
					●						Value to be contacted
							●				The value that can confirm the safety of the house

The common points between Japanese and Chinese before a disaster strikes are “value for a sense of security” and “value for improving disaster prevention awareness”. During normal times, I realized that disaster prevention measures were to be implemented or needed. As the differences between Chinese people, we extracted the values of “value of providing route information for evacuation”, “value of relying on others”, “value of reducing evacuation time”, and “value of instructing evacuation behavior”. It is necessary to provide evacuation drills and information on disaster prevention knowledge to Chinese people in their daily lives. The difference between Japanese and Japanese was that emphasis was placed on contacting the family and checking the status of the house. It is also worth checking the status of the house.

Table 3. Analysis sheet of Japanese and Chinese values at the time of the earthquake.

Chinese					Japanese					When an earthquake occurs	
A	B	C	D	E	F	G	H	I	J	Common point	
		●				●			●		The value of providing an evacuation route
	●				●						The value of reducing evacuation time
A	B	C	D	E	F	G	H	I	J	Difference	
●	●										The value of relying on others
●			●	●							The value of evacuation behavior
								●			Value to be contacted
							●				The value that can confirm the safety of the house
								●			Value for security
									●		Value to raise disaster prevention awareness

One of the commonalities between Japanese and Chinese people after a disaster is securing their own personal safety. The difference between Chinese people was the value of providing disaster prevention knowledge according to the evacuation situation, and the need for clear evacuation instructions, or the value of necessity. One of the differences between Japanese people is their knowledge and interest in disaster prevention information.

Table 4. Analysis sheet of Japanese and Chinese values after the earthquake.

Chinese					Japanese					After the earthquake	
A	B	C	D	E	F	G	H	I	J	Common point	
●	●			●				●	●	Value for security	
A	B	C	D	E	F	G	H	I	J	Difference	
		●								The value of evacuation behavior	
			●							Value of providing disaster prevention knowledge	
					●	●			●	Value of providing disaster prevention information	

4 Conclusion

In this study, when designing for users with different cultures, we believe that it is necessary to first extract cultural traits efficiently in a short time, and to extract cultural traits applicable to concept design. An interview survey method was proposed. To extract cultural traits, an interview survey method based on the Six Ws context was used.

In order to verify the proposed interview survey method, we interviewed Japanese and Chinese about disaster prevention experience using a case study of a disaster prevention application. Based on Six Ws, we conducted user surveys along the time axis of “Before disaster occurred”, “When disaster occurred” and “After disaster”. As a result, we were able to extract the common points and differences between Japanese and Chinese and clarify their cultural traits, thus demonstrating the effectiveness. However, it was not enough to extract the feelings of the subjects about disaster prevention experience. In the future, it is necessary to extract cultural traits including emotions.

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