

UNDERSTANDING INFORMATION RELIABILITY AMONG FOREIGN RESIDENTS IN JAPAN DURING DISASTER OCCURRENCES

Toyohashi University of Technology, Student Member, Maheshan Sundaram
 Toyohashi University of Technology, JSCE Member, Nao Sugiki
 Toyohashi University of Technology, JSCE Member, Kojiro Matsuo

1. Introduction

Japan is a country with one of the world's highest number of natural disaster occurrences. Japan is particularly vulnerable to natural disasters because of its climate and topography, and it has experienced countless earthquakes, typhoons, and other types of disasters. On the other hand, the number of foreign residents in Japan is rising rapidly, and in 2018, Justice Ministry data showed that number of foreign residents in Japan had risen 6.6%, to reach a record high of some 2.73 million [1]. When a magnitude 6.7 quake hit Hokkaido in September 2018, many foreign tourists were frustrated as language barriers prevented them from obtaining crucial and reliable information. Providing the disaster information is not enough as serious measures need to be taken to ensure a highly reliable information regarding the disaster is provided not only to foreign people in Japan but also for the Japanese people as well. During Kumamoto earthquake 2016, a man posted fake news about a lion escaped from the zoo. This kind of fake news is just to create panic among the citizens especially the foreign residents during disaster time. Therefore, this study will try to make comparison on what kind of sources used and the information reliability level from the sources between daily life and disaster occurrence time targeting the foreign residents. Moreover, issues regarding the fake news problem will also be focused in this study. Overall, the understanding of the information reliability of foreign residents is necessary in order to make final proposals regarding steps that can improve information reliability.

2. Methodology

Questionnaire regarding information reliability was conducted targeting the foreign residents to understand the situation of the foreign residents better.

1) Contents of survey

Table 1 shows the summary of contents of the questionnaire which is divided into 6 sections. Section 1 will focus on the basic information of the respondents. Section 2 will mainly ask about their language proficiency whereas section 3 will include questions regarding information sources preferred during their daily life and their language preference when gathering information. Section 4 will be based on the questions regarding information sources used during disaster. Some other questions related to the Typhoon Hagibis (Typhoon no.19) will be asked briefly. Next, section 5 will be focused on question related to fake news problem. Lastly, final section will include questions that will test their basic knowledge level regarding information reliability in order to make comparison between respondents who have low knowledge and high knowledge level of information reliability.

2) Overview of questionnaire survey

The target of the survey is the International students of Toyohashi University of Technology. From the 283 International students, there are 80 students who has answered this questionnaire successfully, and the percentage of respondents stands at 28.3%. Overall, there are 47 Malaysians, 10 Mongolians, 6 Pakistanis, 5 Indonesians and 12 from other countries has answered. Next, there are 60 people who have age ranging from 20 to 24 years old, which is the highest, besides there are 52 males and 28 females answered this questionnaire.

3. Analysis of results

1) Sources preferred and used

Figure 1 shows the sources preferred and used by 80 respondents during daily life and disaster time. Based on the figure, internet webpages and face to face communication is highly used during both times. There is an increase in usage level for information sources like TV during disaster time. Whereas, Whatsapp and LINE is almost similar in usage level during both times.

Table 1: Summary of questionnaire

Section	Section title	Summary of contents
1	Basic information	Nationality, age of respondents, gender and other questions related to their personal attributes
2	Language proficiency	English level, Japanese level and other language skills
3	Various sources and language preference	Information sources preferred during daily life and the reliability level of information from those sources and language preference
4	Typhoon Hagibis (Typhoon no.19)	Information sources used during disaster time and the reliability level of information from those sources and other questions related to Typhoon Hagibis
5	Fake news	Questions related to rank of information sources that host fake news in Japan and respondents' home country
6	Final section (test)	This section is for testing the respondents' basic knowledge regarding information reliability

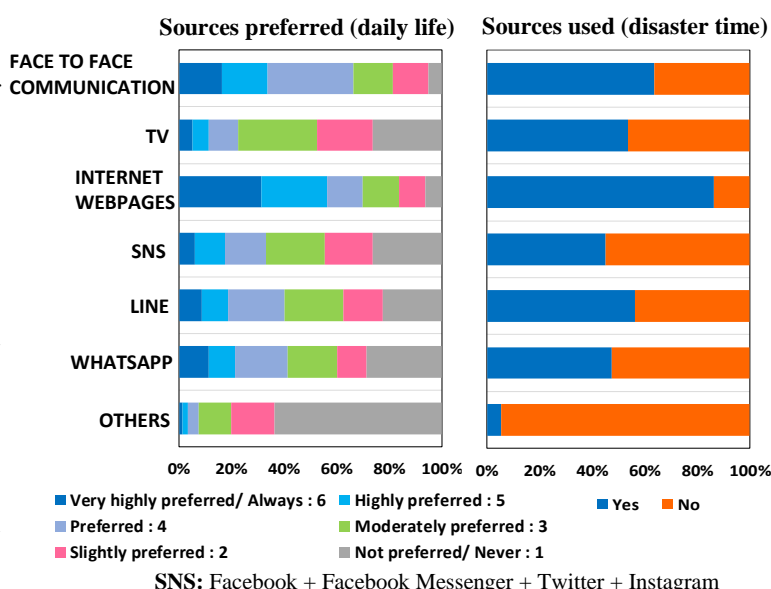


Figure 1: Sources preferred/used (daily life/disaster time)

2) Reliability level

Figure 2 shows reliability level for daily life and disaster time respectively. First of all, starting from the comparison between daily life and disaster time, it is clear that face to face communication is very reliable during daily life whereas internet webpages are very reliable during disaster time. It can be assumed that face to face communication seems to be reliable for them during daily life because there is a high probability that this kind of information source is based within their community group. Trust level from one individual to other individual within their community group is high as they mostly know each other. During disaster time, regarding the high reliability level for internet webpages, the presence of government related webpages and the strong influence of credible media like BBC News or NHK World providing disaster information via their home pages might be a reason for the high reliability level. Besides that, TV is showing a slight increase in terms of reliability level during disaster time and it may be connected to their increase in usage level compared to daily life.

Figure 3 shows the result of reliability level during disaster time for final section of the questionnaire. In this section, a small quiz was done to measure the knowledge level of the respondents regarding information reliability. Most of the people managed to get good score proving that they have high knowledge level of information reliability while on the other hand, there are few people scored low marks. Then, a close analysis regarding reliability level during disaster time was made involving those low and high knowledge level persons. It is clear that people having low knowledge level struggled to gather reliable information during disaster time.

3) Fake news

Figure 4 shows that Facebook is believed to be hosting a lot of fake news both in Japan and respondents' home country. When comparison was made between Japan and home country, there is a difference for sources like TV and Twitter. The amount of fake news for TV in Japan is less compared to home country. Whereas, the amount of fake news for Twitter is higher compared to home country. Relating to **Figure 2**, in Japan, TV is indeed a reliable source for the respondents as it registered a high reliability level compared to Twitter (SNS).

4) Final proposals

Based on **Figure 1**, it is clear that government should regularly post information in the internet webpages and monitor the contents of internet webpages as the foreign residents are highly preferring internet webpages. Besides that, in order to maintain the reliability level of face to face communication as the reliability level is high during their daily life as shown in **Figure 2**, each foreign resident should be a responsible citizen when spreading information to other people. Next, question related to NHK World shows that most of the foreign residents have low knowledge level regarding the presence of reliable media like NHK World and government should promote reliable media like NHK World more to the foreign residents. Besides that, based on the suggestion given by the respondents regarding on how to improve information reliability, every foreign resident should check in various sources before confirming an information received. Based on **Figure 3**, it is shown that people who have low knowledge level regarding information reliability struggled to gather reliable information, thus every foreign resident should educate themselves regarding information reliability. Lastly, based on **Figure 4**, Facebook is believed to be hosting a lot of fake news so the government or other authorities related should punish or block the users who are posting misleading information in Facebook.

4. Conclusion

Overall, the information sources preferred by the 80 respondents shows that the internet webpages and face to face communication are highly preferred during both times. In the case of reliability level, face to face communication is considered to be reliable source during their daily life whereas internet webpages are reliable during disaster time for them. Final proposals made in this study is just giving a basic idea on how to improve information reliability among foreign residents.

REFERENCES

- Magdalena Osumi, The Japan times, "Number of foreign residents in Japan rose 6.6% in 2018", 22 Mac 2019. <https://www.japantimes.co.jp/news/2019/03/22/national/number-foreign-residents-japan-rose-6-6-2018-number>.

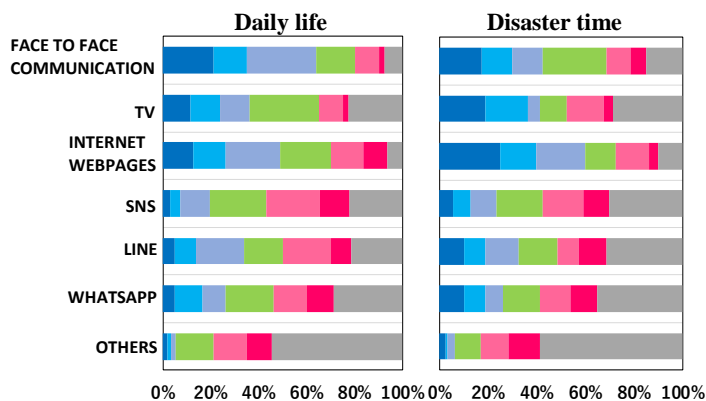


Figure 2: Reliability level

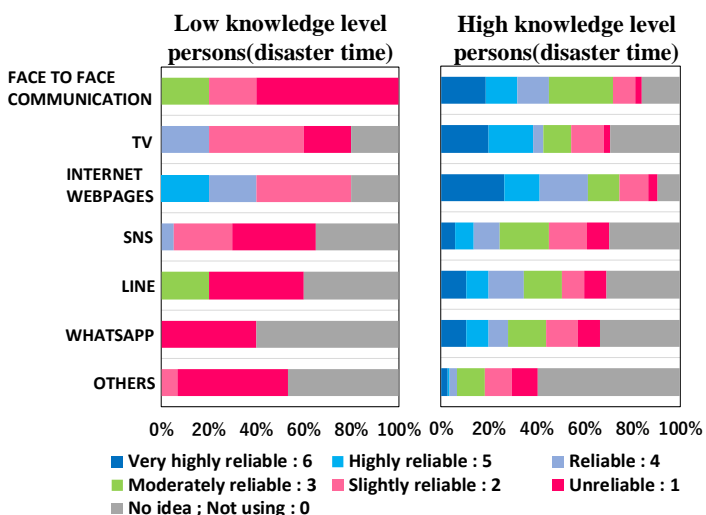


Figure 3: Reliability level of low and high knowledge persons(danger time)

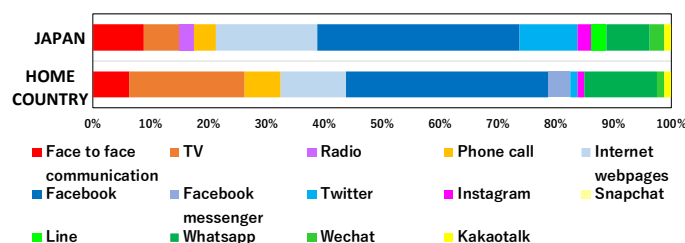


Figure 4: Fake news (Japan and home country)