

# Trust and Information in the Internet Community: A comparative Study between Japan and USA

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## Abstract

To construct new communities in which people interact with each other, feeling 'trust' towards partners should be the basis. Here information might navigate people to possess the feeling of trust. This study aims at clarifying the significance and possibility of trust on the Internet as a new community using data from a social survey between Japan and USA.

**Keywords:** trust, Internet community, information

## 1. Purpose of the study

Chance Discovery aims at identifying and managing rare, but significant events, such as potential risks or opportunities, in some domain and application [Ohsawa, 2003]. The author has been trying to obtain chances in the field of social science especially in the domain of risk management. Data of a questionnaire survey have been treated as objective data in the double helix model of chance discovery. Through these procedures, some new hypotheses have been obtained as "chance". For example, 'rational egoist-tendencies effect people's behavior related to the information ethics on the Internet' [Nara & Ohsawa, 2003]. Recently the author has been obtaining *trust* as a new concept through chance discovery model [Nara, 2005]. Importance and function of trust in the information systems were suggested as the key to facilitate people's recognition of chance to take action. As a former study on trust in the domain of chance discovery, "Harmony in chance discovery" [Oehlmann, 2005] is worthy to be reviewed. Oehlmann indicated the importance of trust which would form the basis of harmony that in turn facilitates the group collaborations on Scenario Emergence.

We live in the era in which many and various people/things cross over the border so often that each individual cannot help facing uncertain and unknown things and people. Here the secured/static community needs to be achieved, but also the trustworthy/dynamic community. In such a community, objective data as well as subjective data are reliable for individuals,

although they are initially unfamiliar. In order to achieve this, 'information' would be the key. It means construction of trust would be realized by the following processes, i.e. 1) gather information about unknown things and people, 2) examine the gathered information, 3) understand about things/people, 4) express and give feedback his/her feeling of trustworthiness regarding others.

This study aims at trust and the community of the Internet. It is going to make clear the effects of trust for developing communities, and the elements of trust by inspecting the following hypotheses with data from a social survey. Comparing the conditions between Japan and USA will provide more meaningful perspective. The U.S. people have the history to have been facing the uncertain and unknown counterpart(s)/things since the founding of nation to the present high migratory society, on the other hand, the Japanese have a long history of building and staying in the secured/static/semi-closed communities so called MURA society. It means attitudes to examine and make trust in community seem different among these two countries.

**Hyp. 1:** Trust has a function to facilitate human interaction in certain community, i.e. in the Internet as well as in everyday life.

**Hyp. 2:** Trust is generated in community though community members' positive and subjective attitude of taking information.

**Hyp. 3:** The bigger profit people gain from their community, the bigger effort for generating trust people try to make.

**Hyp. 4:** Individual features- empathy and rationality- make effect on the attitude of taking information.

**Hyp. 5:** The U.S. people have a strong tendency to gather information and to examine/generate trust in communities to a larger extent than the Japanese do.

## 2. Method

### 2.1. The analytical framework of the research

This is an empirical study employing questionnaires to examine the status of trustworthiness and trust-examining/generating behavior as well as the factors that influence them. Also, this is an international study of trust and information comparing Japan and the US. Analytical framework is shown in Fig. 1. And indexes of main variables are shown below.

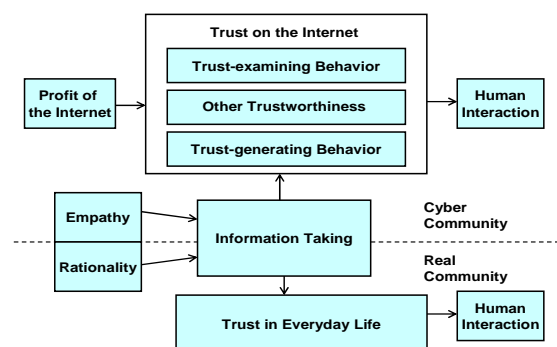


Fig. 1: Analytical framework of the research

### Other Trustworthiness on the internet (Alpha= .905)

This variable was grasped with the index for the general trust of Kosugi & Yamagishi [1998] which added arrangement on Rotter's scale for the measurement of interpersonal trust [Rotter, 1967].

Question: What do you think about the Internet?

1. Strongly agree 2. Agree 3. Somewhat agree 4. Somewhat disagree 5. Disagree 6. Strongly disagree
- On the Internet, most people are basically honest.
- On the Internet, I tend to trust people.
- On the Internet, most people are basically innocent and kind.
- On the Internet, most people trust others.
- On the Internet, most people are trustworthy.

### Trust-examining behavior on the internet (Alpha = .756)

Question: Regarding your attitude in using the Internet, how much is the following description applicable to you? Choose the most suitable one.

1. Very applicable 2. Applicable 3. Somewhat applicable 4. Somewhat inapplicable 5. Inapplicable 6. Not applicable at all
- I judge whether a web site is right or wrong, not by who created it, but rather by its content.
- In collecting information on the Internet, I always care if the information is correct.
- I would trust the information from unknown organizations or people on the Internet, only after researching on the organization/person.

- I would trust the information from unknown organizations or people on the Internet, only after researching on the contents with other sources.

### Trust-generating behavior on the internet (Alpha= .765)

Question: Regarding your attitude in using the Internet, how much is the following description applicable to you? Choose the most suitable one.

- On the Internet, I care about honesty in providing information.
- I try cooperating with others on the Internet, so that the Internet society functions smoothly.
- On the Internet, I actively seek to build cooperative relationships with others when they seem trustworthy.
- On the Internet, I think users are all in a give-and-take relationship.

### Human interaction on the Internet (Alpha= .926)

Question: How often do the following things happen when you interact with others on the Internet?

1. very often 2. often 3. sometimes 4. rarely 5. never
- They tell you about themselves.
- They tell you about their personal trouble.
- You tell them about yourself.
- You tell them about your personal trouble.

### Profit of the Internet (Alpha = .713)

Question: What do you think about the Internet?

- The Internet plays a role to maintain my human relationships.
- The Internet plays a role at work, for study, and in living.
- The Internet expansion will contribute to the welfare of mankind.
- I sometimes feel that it is easier to build close human relationships on the Internet.

### Information-taking tendency (Alpha = .795)

Question: How much do the following descriptions apply to you?

1. Very applicable 2. Applicable 3. Somewhat applicable 4. Somewhat inapplicable 5. Inapplicable 6. Not applicable at all
- I actively seek to obtain new information for my work and for improving my life.
- I try to know everything as thoroughly and in as much detail as possible.
- I feel very embarrassed when I do not know something that other people generally know.
- I like obtaining new information by constantly accessing the media.

- When tackling a goal, I tend to gather as much relevant information as possible.

## 2.2. Outline of survey

The subjects of the survey were male and female Internet users, 20 to 39 years old from all parts of their countries. They were picked randomly from panels composed by survey facilities ([J] NOS list, [US] Greenfield Online list). Surveys were conducted in February and March of 2005, with slight differences in the survey period among two countries ([J] 2005 Feb7-28 and Mar11-12, [US] Feb9-20). For Japan, the questionnaire was sent and returned via ordinary mail; for the US, subjects logged on to a questionnaire website with a log-in-name and password. The sample size was 2412 (with 1175 usable samples) for Japan, 2461 (with 551 usable samples) for the US. Investigation implementation organizations were [J] Nippon Research Center (NRC) and [US] Taylor Nelson Sofres Intersearch (TNS).

Basic attributes of respondents are as follows; Gender: female 68.0% and male 32.0% in Japan, 50.6% and 49.4 % in US. Age: between 20-29 years old 47.0 % and between 30-39 years old 53.0% in Japan (average 30.37 years old), 48.1% and 51.9% in US (average 29.70 years old).

## 3. Results and discussion

### 3.1. Status quo of trust

#### Other Trustworthiness on the internet

Table 1: Frequency distribution of other trustworthiness on the Internet

		(%)					
On the internet		1. Strongly agree	2. Agree	3. Somewhat agree	4. Somewhat disagree	5. Disagree	6. Strongly disagree
Most people are basically honest	[J]	0.34	3.78	16.85	38.87	27.09	13.07
	[US]	1.27	7.08	35.75	25.59	17.06	13.25
I tend to trust people	[J]	0.42	4.39	23.67	33.82	24.27	13.43
	[US]	1.63	4.36	25.77	29.58	22.87	15.79
Most people are basically innocent and kind	[J]	0.34	1.98	24.44	36.92	23.58	12.74
	[US]	1.64	5.44	31.58	27.95	19.96	13.43
Most people trust other	[J]	0.17	1.55	20.70	39.95	26.20	11.43
	[US]	1.63	7.08	35.93	28.32	17.42	9.62
Most people are trustworthy	[J]	0.01	0.77	13.23	37.54	30.67	17.78
	[US]	2.00	4.17	30.31	30.31	19.42	13.79

Table 1 shows the results of five questions related to other trustworthiness on the Internet. It indicates that the U.S. participants feel a high degree of trustworthiness towards others in the Internet community compared with the Japanese. For each question, a chi-square test was conducted to determine the significant difference. Furthermore the author calculated the score by adding five encoded numbers

to each answer category. So the smaller the score becomes, the stronger the other trustworthiness grows. With this score, difference between two countries was examined. As the results of t-test with Internet other trustworthiness score, mean of the US (19.88) is smaller than that of Japanese (21.41) (Table 4), i.e., the U.S. participants trust others more strongly than the Japanese do.

#### Trust-examining behavior on the internet

People's tendency related to the trust-examining behavior is shown in table 2. The author conducted chi-square test for each question, as well as t-test with total score of trust-examining behavior on the Internet (Table 4), and gained significant difference between Japan and US, i.e., the U.S. participants have a tendency to gather information, to examine and to evaluate the information when they feel something uncertainty.

Table 2: Frequency distribution of trust-examining behavior on the Internet

		(%)					
On the internet		1. Very applicable	2. Applicable	3. Somewhat applicable	4. Somewhat inapplicable	5. Inapplicable	6. Not applicable at all
I judge web site by its content	[J]	9.22	32.49	41.79	11.03	2.78	2.69
	[US]	34.30	31.76	25.23	3.63	0.91	4.17
I care if information is correct	[J]	15.10	37.93	33.16	10.59	1.48	1.74
	[US]	51.73	33.76	11.07	1.27	0.54	1.63
Trust information, after researching provider	[J]	5.21	16.23	27.95	31.17	13.02	6.42
	[US]	15.80	35.75	34.66	7.08	3.81	2.90
Trust information, after researching w/other sources	[J]	7.72	21.27	36.11	20.83	8.51	5.56
	[US]	19.60	36.48	31.03	6.90	2.72	3.27

#### Trust-making behavior on the internet

Table 3: Frequency distribution of trust-making behavior on the Internet

		(%)					
On the internet		1. Very applicable	2. Applicable	3. Somewhat applicable	4. Somewhat inapplicable	5. Inapplicable	6. Not applicable at all
I care about honesty in providing information	[J]	15.55	37.29	38.08	5.07	1.48	2.53
	[US]	42.65	37.39	14.34	2.72	0.54	2.36
I try cooperating with others on the Internet	[J]	3.32	7.33	24.69	36.82	17.11	10.73
	[US]	17.60	36.48	28.13	8.167	3.45	6.17
I actively seek to build cooperative relationships	[J]	3.23	8.28	29.64	34.52	15.61	8.72
	[US]	9.26	21.42	31.40	13.61	8.35	15.96
I think users are all in give-and-take relationship	[J]	3.56	13.73	41.01	25.80	9.91	5.99
	[US]	10.53	21.05	39.75	13.61	5.99	9.07

Table 3 indicates that the U.S. participants have a strong tendency to try to generate trust in cyber community by sending honest information and cooperate with each other. The result of t-test in table 4 also shows such tendency of the U.S. participants in the total score of the trust-generating behavior. In

comparison, the Americans think that users are all in a give-and-take relationship on the Internet. They understand if he/she send wrong/harmful information then it does not only feed back on himself/herself but also hampers the whole secured development of the Internet.

### Profit of the Internet, Human interaction on the Internet and Information-taking tendency

Related with above point of view, the U.S. participants recognize the profit of the Internet more strongly than the Japanese do as Table 4 shows. This table also indicates the U.S. participants have a strong tendency to interact (express himself/herself and accept others) with others in the Internet. Also their attitude to take information is significantly stronger than that of the Japanese.

Table 4: Results of t-test among some variables between Japan and USA

		n	Mean	S.D.	t-value	d.f.	significance
Trust-examining behavior on the Internet	[J]	1148	11.92	3.25	17.588	1697	***
	[US]	551	8.90	3.42			
Othere trustworthiness on the Internet	[J]	1157	21.41	4.179	6.055	906.567	***
	[US]	551	19.88	5.15			
Trust-generating behavior on the Internet	[J]	1138	13.57	3.43	13.143	962.567	***
	[US]	551	10.99	3.95			
Profit of the Internet	[J]	1161	9.25	2.55	5.105	878.895	***
	[US]	551	8.44	3.27			
Human interaction on the Internet	[J]	1162	17.25	3.89	8.506	990.153	***
	[US]	551	15.421	4.290			
Informaiton-taking tendency	[J]	1161	14.40	3.75	9.899	932.856	***
	[US]	551	12.23	4.45			
Empathy	[J]	1160	8.69	2.14	9.704	859.876	***
	[US]	551	7.37	2.83			
Rationality	[J]	1159	8.31	2.31	9.436	900.792	***
	[US]	551	6.99	2.86			

\*\*\* p<.001

## 3.2. Relationships among some variables

In this section, the relationships among some variables - trust (other trustworthiness, trust-examining behavior, trust-generating behavior), information-taking tendency, human interaction, profit of the Internet, and individual features (empathy and rationality) are examined with path analysis.

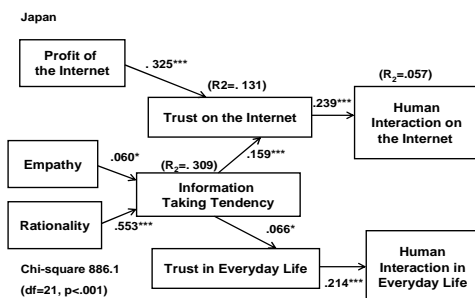


Fig.3: Result of the Japanese data

Results of Japan and US are shown with Fig.3 and 4. In Fig.3, the influences of information-taking tendency for trust ( $\beta = .159$ ) and of trust for human interaction ( $\beta = .239$ ) are significant. Similar tendencies are observed with U.S. respondents, though standardized regression weights are different.

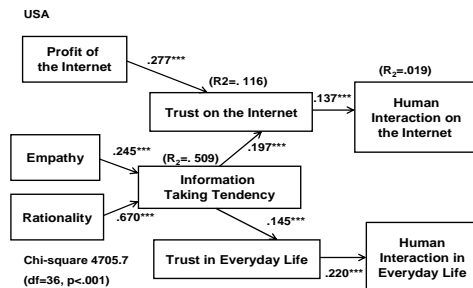


Fig.4: Result of the U.S. data

## 4. Conclusion

This study has made clear the following. Hyp. 1 was verified. Trust makes positive effect for the interpersonal relationships in the Internet as well as in everyday life. Hyp. 2 and 3 were also verified. Community members' recognition about the profit of taking information make positive influence for generating trust. Hyp. 4 was verified, too. Individual features- empathy and rationality- affect the attitude of taking information. And Hyp. 5 was definitely verified. The U.S. people have a strong tendency to gather information and to examine/generate trust in communities positively than the Japanese.

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