Bayesian Network Analysis for the Questionnaire Investigation on the Needs at Fuji Shopping Street Town

Tsuyoshi Aburai¹, Akane Okubo², Daisuke Suzuki³ & Kazuhiro Takeyasu⁴

Correspondence: Tsuyoshi Aburai, Tokushima University, Tokushima, Japan.

Received: April 16, 2018 Accepted: May 4, 2018 Online Published: May 7, 2018

Abstract

Shopping streets at local city in Japan became old and are generally declining. In this paper, we handle the area rebirth and/or regional revitalization of shopping street. We focus on Fuji city in Japan. Four big festivals are held at Fuji city (two for Fuji Shopping Street Town and two for Yoshiwara Shopping Street Town). Many people visit these festivals including residents in that area. Therefore a questionnaire investigation to the residents and visitors is conducted during these periods in order to clarify residents and visitors' needs for the shopping street, and utilize them to the plan building of the area rebirth and/or regional revitalization of shopping street. There is a big difference between Fuji Shopping Street Town and Yoshiwara Shopping Street Town. Therefore we focus Fuji Shopping Street Town in this paper. These are analyzed by using Bayesian Network. The analysis utilizing Bayesian Network enabled us to visualize the causal relationship among items. Furthermore, sensitivity analysis brought us estimating and predicting the prospective visitors. Sensitivity analysis is performed by back propagation method. These are utilized for constructing a much more effective and useful plan building. We have obtained fruitful results. To confirm the findings by utilizing the new consecutive visiting records would be the future works to be investigated.

Keywords: Fuji city, area rebirth, regional vitalization, festival, Bayesian network, back propagation

1. Introduction

Shopping streets at local city in Japan are generally declining. It is because most of them were built in the so-called "High Growth Period (1954-1973)". Therefore they became old and area rebirth and/or regional revitalization are required everywhere.

There are many papers published concerning area rebirth or regional revitalization. Inoue (2017) has pointed out the importance of tourism promotion. Ingu et al. (2017) developed the project of shutter art to Wakkanai Chuo shopping street in Hokkaido, Japan. Ohkubo (2017) has made a questionnaire research at Jigenji shopping street in Kagoshima Prefecture, Japan and analyzed the current condition and future issues. For about tourism, many papers are presented from many aspects as follows.

Yoshida et al. designed and conducted a visitor survey on the spot, which used a questionnaire to investigate the activities of visitors to the Ueno district in Taito ward, Tokyo. Doi et al. analyzed the image of the Izu Peninsula as a tourist destination in their 2003 study "Questionnaire Survey on the Izu Peninsula." Kano conducted tourist behavior studies in Atami city in 2008, 2009, 2014 and in other years.

In this paper, we handle the area rebirth and/or regional revitalization of shopping street. We focus on Fuji city in Japan. Fuji city is located in Shizuoka Prefecture. Mt. Fuji is very famous all around the world and we can see its beautiful scenery from Fuji city, which is at the foot of Mt. Fuji. There are two big shopping street in Fuji city. One is Yoshiwara shopping street and another one is Fuji shopping street. They became old and building area rebirth and regional revitalization plan have started. Following investigation was conducted by the joint research group (Fuji Chamber of Commerce & Industry, Fujisan Area Management Company, Katsumata Maruyama Architects, Kougakuin University and Tokoha University). The main project activities are as follows.

¹ Tokushima University, Tokushima, Japan

² NIHON University Junior College, Shizuoka, Japan

³ Fujisan Area Management Company, Shizuoka, Japan

⁴College of Business Administration, Tokoha University, Shizuoka, Japan

Investigation on the assets which are not in active use

Questionnaire Investigation to Entrepreneur

Questionnaire Investigation to the residents and visitors

After that, area rebirth and regional revitalization plan were built.

In this paper, we handle above stated C.

Four big festivals are held at Fuji city. Two big festivals are held at Yoshiwara Shopping Street Town and two big festivals at Fuji Shopping Street Town.

At Yoshiwara Shopping Street Town, Yoshiwara Gion Festival is carried out during June and Yoshiwara Shukuba (post-town) Festival is held during October. On the other hand, Kinoene Summer Festival is conducted during August and Kinoene Autumn Festival is performed during October at Fuji Shopping Street Town. Many people visit these festivals including residents in that area.

Therefore questionnaire investigation of C is conducted during these periods.

Finally, we have obtained 982 sheets (Yoshiwara Shopping Street Town: 448, Fuji Shopping Street Town: 534).

Basic statistical analysis and Bayesian Network analysis are executed based on that.

In this paper, a questionnaire investigation is executed in order to clarify residents and visitors' needs for the shopping street, and utilize them to the plan building of the area rebirth and/or regional revitalization of shopping street. There is a big difference between Fuji Shopping Street Town and Yoshiwara Shopping Street Town. Therefore we focus Fuji Shopping Street Town in this paper. These are analyzed by using Bayesian Network. By that model, the causal relationship is sequentially chained by the characteristics of visitors, the purpose of visiting and the image of the surrounding area at this shopping street. The analysis utilizing Bayesian Network enabled us to visualize the causal relationship among items. Furthermore, sensitivity analysis brought us estimating and predicting the prospective visitors. Sensitivity analysis was conducted by back propagation method.

Some interesting and instructive results are obtained.

The rest of the paper is organized as follows. Outline of questionnaire investigation is stated in section 2. In section 3, Bayesian Network analysis is executed which is followed by the sensitivity analysis in section 4. Remarks are stated in section 5.

2. Outline and the Basic Statistical Results of the Questionnaire Research

2.1 Outline of the Questionnaire Research

A questionnaire investigation to the residents and visitors is conducted during these periods in order to clarify residents and visitors' needs for the shopping street, and utilize them to the plan building of the area rebirth and/or regional revitalization of shopping street. The outline of questionnaire research is as follows. Questionnaire sheet is attached in Appendix 1.

(1) Scope of investigation : Residents and visitors who have visited four big festivals at Fuji

city in Shizuoka Prefecture, Japan

(2) Period : Yoshiwara Gion Festival: June 11,12/2016

Yoshiwara Shukuba (post-town) Festival: October 9/2016

Kinoene Summer Festival: August 6,7/2016 Kinoene Autumn Festival: October 15.16/2016

(3) Method : Local site, Dispatch sheet, Self-writing

(4) Collection : Number of distribution 1400

Number of collection 982(collection rate 70.1%)

Valid answer 982

2.2 Basic Statistical Results

Now, we show the main summary results by single variable.

2.2.1 Characteristics of Answers

1) Sex (Q7)

Male 43.3%, Female 56.7%

These are exhibited in Figure 1.

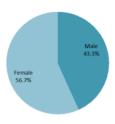


Figure 1. Sex (Q7)

2) Age (Q8)

10th 20.6%, 20th 16.7%, 30th 25.3%, 40th 17.0%, 50th 10.1%, 60th 6.9%, More than 70 3.4% These are exhibited in Figure 2.

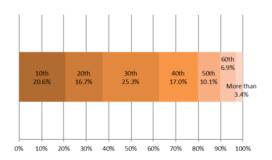


Figure 2. Age (Q8)

3) Residence (Q9)

a. Fuji city 82.8%, b. Fujinomiya city 8.8%, c. Numazu city 2.1%, d. Mishima city 0.7%, e. Shizuoka city 0.9%, F. Else (in Shizuoka Prefecture) 2.1%, g. Outside of Shizuoka Prefecture 2.6%

These are exhibited in Figure 3.

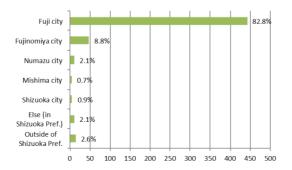


Figure 3. Residence (Q9)

4) How often do you come to this shopping street? (Q1)

Everyday 21.2%, More than 1 time a week 17.2%, More than 1 time a month 22.7%,

More than 1 time a year 26.8%, First time 3.0%, Not filled in 4.1%

These are exhibited in Figure 4.

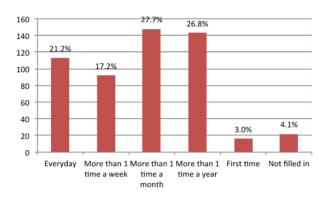


Figure 4. How often do you come to this shopping street? (Q1)

5) What is the purpose of visiting here? (Q2) Shopping 17.2%, Eating and drinking 13.6%, Business 7.4%, Celebration, event 34.1%, Leisure, amusement 6.1%, miscellaneous 21.6% These are exhibited in Figure 5.

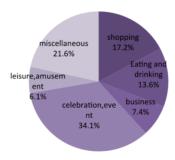


Figure 5. What is the purpose of visiting here? (Q2)

6) How do you feel about the image of the surrounding area at this shopping street? (Q3) Beautiful 51.2%, Ugly 48.8%, of the united feeling there is 44.3%, Scattered 55.7%, Varied 38.5%, Featureless 61.5%, New 37.1%, Historic 62.9%, Full of nature 37.1%, Urban 62.9%, Cheerful 44.1%, Gloomy 55.9%, Individualistic 42.0%, Conventional 58.0%, Friendly 57.8%, Unfriendly 42.2%, Healed 53.3%, Stimulated 46.7%, Open 44.8%, Exclusive 55.2%, Want to reside 43.6%, Do not want to reside 56.4%, Warm 55.1%, Aloof 44.9%, Fascinating 42.1%, Not fascinating 57.9%, Want to play 47.1%, Want to examine deliberately 52.9%, Lively 36.8%, Calm 63.2%, Atmosphere of urban 28.0%, Atmosphere of rural area 72.0%

These are exhibited in Figure 6.

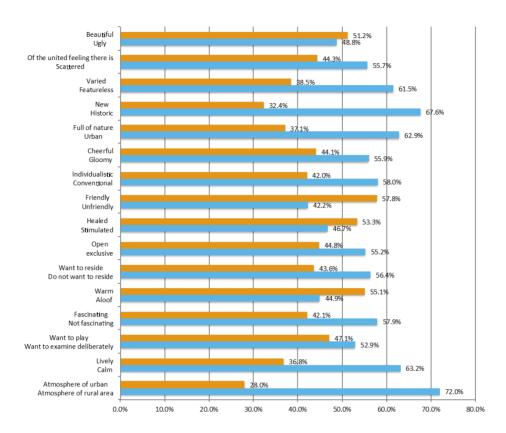


Figure 6. How do you feel about the image of the surrounding area at this shopping street? (Q3)

7) There are many old building at the age of nearly 50 years. Do you think we can still use them? (Q4) Can use it 48.7%, Cannot use it 29.2%, Have no idea 22.1% These are exhibited in Figure 7.

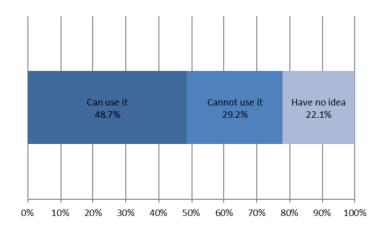


Figure 7. There are many old building at the age of nearly 50 years. Do you think we can still use them? (Q4)

3. Bayesian Network Analysis

In constructing Bayesian Network, it is required to check the causal relationship among groups of items. Based on this, a model is built as is shown in Figure 8.

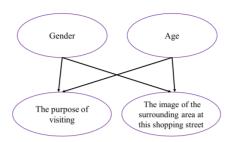


Figure 8. A built model

We used BAYONET software (http://www.msi.co.jp/BAYONET/). When plural nodes exist in the same group, it occurs that causal relationship is hard to set a priori. In that case, BAYONET system set the sequence automatically utilizing AIC standard. Node and parameter of Figure 8 are exhibited in Table 1.

Table 1. Node and parameter

N - J -	Parameter										
Node	1	2	3		4	5	6	7	8	9	10
Gender	Male	Female									
Age	10th	20th	30th		40th	50th	60th	More than 70)		
The purpose of visiting	Shopping	Eating and drinking	Business		Celebr ation, event	Leisure, amusem ent	miscell aneous				
The image of the surrounding area at this shopping street	Beautiful	Ugly	Of tunited feeling the is	the ere	Scatter ed	Varied	Featur eless	New	Historic	Full of nature	Urban
	Parameter										
Node	11	12	13		14	15	16	17	18	19	20
The image of the surrounding area at this shopping street	Cheerful	Gloomy	Individua ic	alist	Conve ntional	Friendl y	Unfrie ndly	Healed	Stimul ated	Open	Exclusi ve
	Parameter										
Node	21 2	22	23 2	24	25	26		27	28	29	30
The image of the surrounding area at this shopping street	to v	Do not want to reside	Warm A	Aloof	Fasci:		C	Want	Want to examine deliberately	Lively	Calm
Node					Paran	neter		22			
The image of the st	urrounding	ron at this s	honning stra	not	31	sphere of u	ırhan	32 Atm	osphere of ru	ral araa	
The image of the s	The image of the surrounding area at this shopping street				Aulio	sphere or t	ai Oali	Ailli	ospilete of fu	iai aica	

In the next section, sensitivity analysis is achieved by back propagation method. Back propagation method is

51

conducted in the following method (Figure 9).

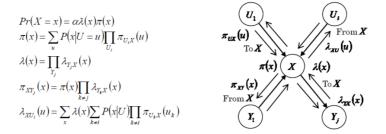


Figure 9. Back propagation method (Takeyasu, et al., 2010)

4. Sensitivity Analysis

Now, posterior probability is calculated by setting evidence as, for example, 1.0. Comparing Prior probability and Posterior probability, we can seek the change and confirm the preference or image of the surrounding area at this shopping street. We set evidence to all parameters. Therefore the analysis volume becomes too large. In this paper, we focus on "The image of the surrounding area at this shopping street" and pick up former half and make sensitivity analysis. We prepare another paper for the rest of them.

As stated above, we set evidence for each parameter, and the calculated posterior probability is exhibited in Appendix 2. The value of "Posterior probability – Prior probability" (we call this "Difference of probability" hereafter) is exhibited in Appendix 3. The sensitivity analysis is executed by mainly using this table.

Here, we classify each item by the strength of the difference of probability.

- Strong (++, --): Select major parameter of which absolute value of difference of probability is more than 0.05
- Medium (+, -): Select major parameter of which absolute value of difference of probability is more than 0.01
- · Weak: Else

In selecting items, negative value does not necessarily have distinct meaning, therefore we mainly pick up positive value in the case meaning is not clear.

Now we examine each for Strong and Medium case.

- 4.1 Sensitively Analysis for "The Image of the Surrounding Area at This Shopping Street"
- (1) Setting evidence to "Shopping"

After setting evidence to "Shopping", the result is exhibited in Table 2.

Table 2. Setting evidence to "Shopping" case

Male	_
Female	+
Age: 10th	_
Age: 20th	+
Age: 30th	_
Age: 50th	_
Age: 60th	+
Age: More than 70	++

We can observe that "Those who visit for "Shopping" had come of an age of "20th", "60th" or "More than 70" in which the gender is "Female".

(Strong part is indicated by bold font.)

(2) Setting evidence to "Eating and drinking"

After setting evidence to "Eating and drinking", the result is exhibited in Table 3.

Table 3. Setting evidence to "Eating and drinking" case

Business	+
Celebration, event	+
Leisure, amusement	_
Of the united feeling there is	_
Individualistic	_
Conventional	+
Friendly	
Open	_
Warm	_
Fascinating	_
Want to play	_
Male	+
Female	_
Age: 10th	
Age: 20th	++
Age: 40th	++
Age: 50th	++
Age: 60th	_
Age: More than 70	

We can observe that "Those who visit for "Eating and drinking" had come with the purpose of visiting for "Business", "Celebration, event" under the image of the surrounding area at this shopping street as "Conventional" of an age of "20th ", "40th " or "50th " in which the gender is "Male".

(3) Setting evidence to "Business"

After setting evidence to "Business", the result is exhibited in Table 4.

Table 4. Setting evidence to "Business" case

Eating and drinking	+
Celebration, event	+
Leisure, amusement	_
Individualistic	
Male	+
Female	
Age: 10th	
Age: 20th	++
Age: 30th	+
Age: 40th	
Age: 50th	+
Age: 60th	_

We can observe that "Those who visit for "Business" had come with the purpose of visiting for "Eating and drinking", "Celebration, event" of an age of "20th", "30th" or "50th" in which the gender is "Male".

(4) Setting evidence to "Celebration, event"

After setting evidence to "Celebration, event", the result is exhibited in Table 5.

Table 5. Setting evidence to "Celebration, event" case

Business	Eating and drinking	+
Beautiful	Business	+
Ugly	Leisure, amusement	_
Scattered	Beautiful	_
Varied — Cheerful — Gloomy + Individualistic — Conventional + Friendly — Unfriendly + Healed — Open — Exclusive + Warn — Aloof + Fascinating — Not fascinating + Want to play — Lively — Male + + Female — Age: 10th — Age: 30th + Age: 50th + Age: 60th —	Ugly	+
Cheerful — Gloomy + Individualistic — Conventional + Friendly — Unfriendly + Healed — Open — Exclusive + Warn to reside — Warm — Aloof + Fascinating — Not fascinating + Want to play — Lively — Male + + Female — Age: 10th — Age: 30th + Age: 50th + Age: 60th —	Scattered	+
Gloomy	Varied	_
Individualistic	Cheerful	_
Conventional + Friendly - Unfriendly + Healed - Open - Exclusive + Want to reside - Warm - Aloof + Fascinating - Not fascinating + Want to play - Lively - Male + + Female - Age: 10th - Age: 30th + Age: 40th + Age: 50th + Age: 60th -	Gloomy	+
Friendly — Unfriendly + Healed — Open — Exclusive + Want to reside — Warm — Aloof + Fascinating — Not fascinating + Want to play — Lively — Male + + Female — Age: 10th — Age: 30th + Age: 40th + Age: 50th + Age: 60th —	Individualistic	_
Unfriendly + Healed - Open - Exclusive + Want to reside - Warm - Aloof + Fascinating - Not fascinating + Want to play - Lively - Male + + Female - Age: 10th - Age: 30th + Age: 40th + Age: 50th + Age: 60th -	Conventional	+
Healed — Open — Exclusive + Want to reside — Warm — Aloof + Fascinating — Not fascinating + Want to play — Lively — Male + + Female — Age: 10th — Age: 30th + Age: 40th + Age: 50th + Age: 60th —	Friendly	_
Open — Exclusive + Want to reside — Warm — Aloof + Fascinating — Not fascinating + Want to play — Lively — Male + + Female — Age: 10th — Age: 30th + Age: 40th + Age: 50th + Age: 60th —		+
Exclusive + Want to reside - Warm - Aloof + Fascinating - Not fascinating + Want to play - Lively - Male + + Female - Age: 10th - Age: 30th + Age: 40th + Age: 50th + Age: 60th -	Healed	_
Want to reside — Warm — Aloof + Fascinating — Not fascinating + Want to play — Lively — Male + + Female — Age: 10th — Age: 30th + Age: 40th + Age: 50th + Age: 60th —	Open	_
Warm — Aloof + Fascinating — Not fascinating + Want to play — Lively — Male + + Female — Age: 10th — Age: 30th + Age: 40th + Age: 50th + Age: 60th —	Exclusive	+
Aloof + Fascinating - Not fascinating + Want to play - Lively - Male + + Female - Age: 10th Age: 30th + Age: 40th + Age: 50th + Age: 60th -	Want to reside	_
Fascinating — Not fascinating + Want to play — Lively — Male + + Female — Age: 10th — Age: 30th + Age: 40th + Age: 50th —	Warm	_
Not fascinating + Want to play - Lively - Male + + Female - Age: 10th Age: 30th + Age: 40th + Age: 50th + Age: 60th -	Aloof	+
Want to play — Lively — Male + + Female — Age: 10th — - Age: 30th + Age: 40th + Age: 50th + Age: 60th —	Fascinating	_
Lively — Male + + Female — Age: 10th — — Age: 30th + Age: 40th + Age: 50th + Age: 60th —	Not fascinating	+
Male + + Female - Age: 10th Age: 30th + Age: 40th + Age: 50th + Age: 60th -		_
Female — Age: 10th — Age: 30th + Age: 40th + Age: 50th + Age: 60th —	Lively	_
Age: 10th Age: 30th + Age: 40th + Age: 50th + Age: 60th -	Male	++
Age: 30th + Age: 40th + Age: 50th + Age: 60th -	Female	_
Age: 40th + Age: 50th + Age: 60th -	Age: 10th	
Age: 50th + Age: 60th -	Age: 30th	
Age: 60th —	Age: 40th	+
		+
Age: More than 70	Age: 60th	_
Age. Wore than 70	Age: More than 70	+

We can observe that "Those who visit for "Celebration, event" had come with the purpose of visiting for "Eating and drinking", "Business" under the image of the surrounding area at this shopping street as "Ugly", "Scattered", "Gloomy", "Conventional", "Unfriendly", "Exclusive", "Aloof" or "Not fascinating" of an age of "30th", "40th", "50th" or "More than 70" in which the gender is "Male".

(5) Setting evidence to "Leisure, amusement"

After setting evidence to "Leisure, amusement", the result is exhibited in Table 6.

Table 6. Setting evidence to "Leisure, amusement" case

Male	_
Female	+
Age: 20th	_
Age: 40th	_
Age: 50th	_
Age: 60th	++
Age: More than 70	+

We can observe that "Those who visit for "Leisure, amusement" had come by an age of "60th " or "More than 70 "in which the gender is "Female".

- 4.2 Sensitivity Analysis for "Gender"
- (1) Setting Evidence to "Male"

After setting evidence to "Male", the result is exhibited in Table 7.

Table 7. Setting evidence to "Male" case

Shopping	
Eating and drinking	++
Business	++
Celebration, event	++
Leisure, amusement	
Beautiful	_
Ugly	+
Varied	_
New	
Historic	_
Full of nature	_
Cheerful	_
Gloomy	+
Individualistic	_
Conventional	+
Friendly	_
Unfriendly	_
Want to reside	_
Do not want to reside	+
Warm	
Aloof	++
Fascinating	_
Not fascinating	+
Want to play	
Want to examine deliberately	_
Lively	_

We can observe that "Those who are "Male" had come with the purpose of visiting for "Eating and drinking", "Business", or "Celebration, event" under the image of the surrounding area at this shopping street as "Ugly", "Gloomy", "Conventional", "Do not want to reside", "Aloof" or "Not fascinating".

(2) Setting Evidence to "Female"

After setting evidence to "Female", the result is exhibited in Table 8.

Table 8. Setting evidence to "Female" case

Shopping	++
Eating and drinking	
Business	
Celebration, event	
Leisure, amusement	++
Beautiful	+
Ugly	_
Varied	+
New	++
Historic	+
Full of nature	+
Cheerful	+
Gloomy	_
Individualistic	+
Conventional	_
Friendly	+
Unfriendly	+
Want to reside	+
Do not want to reside	_
Warm	++
Aloof	
Fascinating	+
Not fascinating	_
Want to play	++
Want to examine deliberately	+
Lively	+

We can observe that "Those who are "Female" had come with the purpose of visiting for "Shopping", or "Leisure, amusement" under the image of the surrounding area at this shopping street as "Beautiful", "Varied", "New"," Historic", "Full of nature", "Cheerful", "Individualistic", "Friendly", "Unfriendly", "Want to reside", "Warm", "Fascinating", "Want to play", "Want to examine deliberately" or "Lively".

4.3 Sensitivity Analysis for "Age"

(1) Setting evidence to "10th"

After setting evidence to "10th", the result is exhibited in Table 9.

Table 9. Setting evidence to "10th" case

Shopping	
Eating and drinking	
Business	
Celebration, event	
Beautiful	+
Ugly	_
Of the united feeling there is	++

Scattered	
Varied	++
Featureless	_
New	
Full of nature	+
Urban	+
Cheerful	++
Gloomy	_
Individualistic	++
Conventional	
Friendly	++
Unfriendly	
Healed	++
Stimulated	_
Open	++
Exclusive	
Want to reside	++
Do not want to reside	_
Warm	++
Aloof	
Fascinating	++
Not fascinating	_
Want to play	++
Want to examine deliberately	_
Lively	++
Calm	_
Atmosphere of rural area	

We can observe that "Those who are at the age of "10th" had come under the image of the surrounding area at this shopping street as "Beautiful", "Of the united feeling there is", "Varied", "Full of nature", "Urban", "Cheerful", "Individualistic", "Friendly", "Healed", "Open", "Want to reside", "Warm", "Fascinating", "Want to play" or "Lively".

(2) Setting evidence to "20th"

After setting evidence to "20th", the result is exhibited in Table 10.

Table 10. Setting evidence to "20th" case

Shopping	+
Eating and drinking	++
Business	++
Leisure, amusement	_
Beautiful	+
Ugly	_
Scattered	_
Varied	_
Featureless	_
New	+
Urban	_
Cheerful	++

Gloomy	_
Individualistic	_
Conventional	+
Unfriendly	_
Healed	+
Stimulated	+
Open	+
Want to reside	+
Do not want to reside	_
Aloof	_
Fascinating	+
Not fascinating	_
Want to play	+
Want to examine deliberately	+
Lively	+
Atmosphere of urban	_
Atmosphere of rural area	
	•

We can observe that "Those who are at the age of "20th" had come with the purpose of visiting for "Shopping", "Eating and drinking", "Business" under the image of the surrounding area at this shopping street as "Beautiful", "New", "Cheerful", "Conventional", "Healed", "Stimulated", "Open", "Want to reside", "Fascinating", "Want to play", "Want to examine deliberately" or "Lively".

(3) Setting evidence to "30th"

After setting evidence to "30th", the result is exhibited in Table 11.

Table 11. Setting evidence to "30th" case

Shopping	_
Eating and drinking	+
Business	+
Celebration, event	+
Beautiful	+
Ugly	
Of the united feeling there is	_
Urban	
Cheerful	
Individualistic	
Conventional	+
Unfriendly	_
Stimulated	
Open	_
Exclusive	_
Want to reside	_
Do not want to reside	_
Warm	_
Aloof	_
Want to play	+
Want to examine deliberately	_
Calm	_

We can observe that "Those who are at the age of "30th" had come with the purpose of visiting for "Eating and drinking", "Business" or "Celebration, event" under the image of the surrounding area at this shopping street as "Beautiful", "Conventional" or "Want to play".

(4) Setting evidence to "40th"

After setting evidence to "40th", the result is exhibited in Table 12.

Table 12. Setting evidence to "40th" case

Eating and drinking	++
Business	_
Celebration, event	+
Leisure, amusement	_
Beautiful	
Of the united feeling there is	
Scattered	+
Varied	_
New	+
Full of nature	
Urban	_
Cheerful	_
Gloomy	+
Individualistic	
Friendly	
Healed	
Stimulated	
Open	
Exclusive	+
Want to reside	_
Do not want to reside	+
Warm	_
Aloof	+
Fascinating	
Not fascinating	+
Lively	
Calm	+
Atmosphere of urban	+
Atmosphere of rural area	+

We can observe that "Those who are at the age of "40th" had come with the purpose of visiting for "Eating and drinking" or "Celebration, event" under the image of the surrounding area at this shopping street as" Scattered", "New", "Gloomy", "Exclusive", "Do not want to reside", "Aloof", "Not fascinating", "Calm", "Atmosphere of urban" or "Atmosphere of rural area".

(5) Setting evidence to "50th"

After setting evidence to "50th", the result is exhibited in Table 13.

Table 13. Setting evidence to "50th" case

Shopping	_
Eating and drinking	+
Business	+
Celebration, event	+
Leisure, amusement	_
Beautiful	_
Ugly	++
Of the united feeling there is	_
Scattered	+
Featureless	+
New	_
Full of nature	+
Cheerful	_
Gloomy	+
Individualistic	+
Conventional	+
Friendly	_
Unfriendly	+
Stimulated	+
Open	_
Exclusive	+
Want to reside	_
Warm	_
Aloof	+
Fascinating	_
Not fascinating	+
Want to play	
Lively	_
Atmosphere of urban	+

We can observe that "Those who are at the age of "50th" had come with the purpose of visiting for "Eating and drinking", "Business" or "Celebration, event" under the image of the surrounding area at this shopping street as "Ugly", "Scattered", "Featureless", "Full of nature", "Gloomy", "Individualistic", "Conventional", "Unfriendly", "Stimulated", "Exclusive", "Aloof", "Not fascinating" or "Atmosphere of urban".

(6) Setting evidence to "60th"

After setting evidence to "60th", the result is exhibited in Table 14.

Table 14. Setting evidence to "60th" case

Eating and drinking	_
Business	
Leisure, amusement	++
Ugly	
Of the united feeling there is	
Scattered	+
Varied	_
Featureless	+
New	+

Urban	+
Cheerful	_
Gloomy	+
Individualistic	_
Conventional	+
Friendly	_
Unfriendly	+
Healed	_
Stimulated	+
Open	_
Exclusive	+
Do not want to reside	+
Warm	_
Fascinating	_
Not fascinating	+
Want to play	_
Want to examine deliberately	+
Lively	+
Calm	+
Atmosphere of urban	_
Atmosphere of rural area	+

We can observe that "Those who are at the age of "60th" had come with the purpose of visiting for "Leisure, amusement" under the image of the surrounding area at this shopping street as "Scattered", "Featureless", "New", "Urban", "Gloomy", "Conventional", "Unfriendly", "Stimulated ", "Exclusive", "Do not want to reside", "Not fascinating", "Want to examine deliberately", "Lively", "Calm" or "Atmosphere of rural area".

(7) Setting evidence to "More than 70"

After setting evidence to "More than 70", the result is exhibited in Table 15.

Table 15. Setting evidence to "More than 70" case

Shopping	+
Eating and drinking	_
Leisure, amusement	++
Varied	_
Cheerful	_
Gloomy	+
Individualistic	
Unfriendly	+
Healed	_
Stimulated	+
Open	_
Exclusive	+
Warm	_
Aloof	+
Want to play	_
Lively	

We can observe that "Those who are at the age of "More than 70" had come with the purpose of visiting for

"Shopping", "Leisure, amusement" under the image of the surrounding area at this shopping street as "Gloomy", "Unfriendly", "Stimulated", "Exclusive" or "Aloof".

5. Remarks

The Results for Bayesian Network Analysis are as follows.

In the Bayesian Network Analysis, model was built under the examination of the causal relationship among items. Sensitively Analysis was conducted after that. The main result of sensitively analysis is as follows.

We can observe that "Those who visit for "Eating and drinking" had come with the purpose of visiting for "Business", "Celebration, event" under the image of the surrounding area at this shopping street as "Conventional" of an age of "20th", "40th " or "50th " in which the gender is "Male".

We can observe that "Those who visit for "Celebration, event" had come with the purpose of visiting for "Eating and drinking", "Business" under the image of the surrounding area at this shopping street as "Ugly", "Scattered", "Gloomy", "Conventional", "Unfriendly", "Exclusive", "Aloof" or "Not fascinating" of an age of "30th", "40th", "50th" or "More than 70" in which the gender is "Male".

We can observe that "Those who are "Female" had come with the purpose of visiting for "Shopping", or "Leisure, amusement" under the image of the surrounding area at this shopping street as "Beautiful", "Varied", "New"," Historic", "Full of nature", "Cheerful", "Individualistic", "Friendly", "Unfriendly", "Want to reside", "Warm", "Fascinating", "Want to play", "Want to examine deliberately" or "Lively".

We can observe that "Those who are at the age of "10th" had come under the image of the surrounding area at this shopping street as "Beautiful", "Of the united feeling there is", "Varied", "Full of nature", "Urban", "Cheerful", "Individualistic", "Friendly", "Healed", "Open", "Want to reside", "Warm", "Fascinating", "Want to play" or "Lively".

We can observe that "Those who are at the age of "20th" had come with the purpose of visiting for "Shopping", "Eating and drinking", "Business" under the image of the surrounding area at this shopping street as "Beautiful", "New", "Cheerful", "Conventional", "Healed", "Stimulated", "Open", "Want to reside", "Fascinating", "Want to play", "Want to examine deliberately" or "Lively".

We can observe that "Those who are at the age of "50th" had come with the purpose of visiting for "Eating and drinking", "Business" or "Celebration, event" under the image of the surrounding area at this shopping street as "Ugly", "Scattered", "Featureless", "Full of nature", "Gloomy", "Individualistic", "Conventional", "Unfriendly", "Stimulated", "Exclusive", "Aloof", "Not fascinating" or "Atmosphere of urban".

We can observe that "Those who are at the age of "60th" had come with the purpose of visiting for "Leisure, amusement" under the image of the surrounding area at this shopping street as "Scattered", "Featureless", "New", "Urban", "Gloomy", "Conventional", "Unfriendly", "Stimulated ", "Exclusive", "Do not want to reside", "Not fascinating", "Want to examine deliberately", "Lively", "Calm" or "Atmosphere of rural area".

6. Conclusion

Shopping streets at local city in Japan became old and are generally declining. In this paper, we handle the area rebirth and/or regional revitalization of shopping street. We focus on Fuji city in Japan. Four big festivals are held at Fuji city (two for Fuji Shopping Street Town and two for Yoshiwara Shopping Street Town). Many people visit these festivals including residents in that area. There is a big difference between Fuji Shopping Street Town and Yoshiwara Shopping Street Town. Therefore we focus Fuji Shopping Street Town in this paper. A questionnaire investigation to the residents and visitors is conducted during these periods in order to clarify residents and visitors' needs for the shopping street, and utilize them to the plan building of the area rebirth and/or regional revitalization of shopping street. These are analyzed by using Bayesian Network. By that model, the causal relationship is sequentially chained by the characteristics of visitors, the purpose of visiting and the image of the surrounding area at this shopping street.

The Results for Bayesian Network Analysis are as follows.

In the Bayesian Network Analysis, model was built under the examination of the causal relationship among items. Sensitively Analysis was conducted after that. The main result of sensitively analysis is as follows.

We can observe that "Those who visit for "Celebration, event" had come with the purpose of visiting for "Eating and drinking", "Business" under the image of the surrounding area at this shopping street as "Ugly", "Scattered", "Gloomy", "Conventional", "Unfriendly", "Exclusive", "Aloof" or "Not fascinating" of an age of "30th", "40th", "50th" or "More than 70" in which the gender is "Male".

We can observe that "Those who are "Female" had come with the purpose of visiting for "Shopping", or "Leisure, amusement" under the image of the surrounding area at this shopping street as "Beautiful", "Varied", "New"," Historic", "Full of nature", "Cheerful", "Individualistic", "Friendly", "Unfriendly", "Want to reside", "Warm", "Fascinating", "Want to play", "Want to examine deliberately" or "Lively".

We can observe that "Those who are at the age of "20th" had come with the purpose of visiting for "Shopping", "Eating and drinking", "Business" under the image of the surrounding area at this shopping street as "Beautiful", "New", "Cheerful", "Conventional", "Healed", "Stimulated", "Open", "Want to reside", "Fascinating", "Want to play", "Want to examine deliberately" or "Lively".

The analysis utilizing Bayesian Network enabled us to visualize the causal relationship among items. Furthermore, sensitivity analysis brought us estimating and predicting the prospective visitors. Sensitivity analysis was achieved by back propagation method. These are utilized for constructing a much more effective and useful plan building.

Although it has a limitation that it is restricted in the number of research, we could obtain the fruitful results. To confirm the findings by utilizing the new consecutive visiting records would be the future works to be investigated.

Acknowledgement

The authors are grateful to all those who supported us for answering the questionnaire investigation.

References

Atami City. (2015). 2014 Survey of Tourist Behavior.

- Doi, H. (2009). Evaluation of policies to build tourist destinations and statistical analysis. Nippon Hyoron Sha. Retrieved from https://www.jnto.go.jp/eng/location/rtg/pdf/pg-410.pdf#search='Izupeninsula' and http://www.kawazu-onsen.com/eng/
- Ingu, S., Uemura, M., Uchida, Y., Omiya, M., Miura, T., & Hironori, H. (2017). A study on the application of geothermal power generation to local revitalization in Obama Town, Unzen City: in consideration of futurability in Obama. *Environmental Science Research*, *Nagasaki University*, 20(1), 51-63.
- Inoue, A. (2017). Changes in Local Communities Brought by Municipal Mergers: From the Viewpoint of Tourism Promotion as the Main Industry. *Bulletin of the Faculty of Regional Development Studies*, 2, 1-32. Otemon Gakuin University,
- IShioya, H. (2009). Overview and application of tourism statistics: Analysis using statistical survey on overnight travels. *Journal of Economic Structures*, 17(1-2), 16-29.
- Japan Tourism Agency. (2015). Research study on economic impacts of tourism in Japan 2013, pp. 3.
- Kano, M. (2011). Characteristic analysis of Atami tourists: Reconsideration based on data add and modify. *Shizuoka Economic Research*, 16(2), 61-78.
- Kotani, A. (2017). The implementation report of the Machi-lab shutter art project. *Bulletin of Wakkanai Hokusei Gakuen University*, 17, 207-218.
- Ohkubo, Y. (2017). Current status and problems in Jigenji-dori shopping area: from a consumer questionnaire. *Bulletin of Local Research*, 44(2), 1-15. Kagoshima International University.
- Takeyasu, K., et. al. (2010). Modern Marketing. Chuoukeizaisha Publishing.
- Yoshida, I. (2009). Consideration on the Characteristic of Visitors' Activity and the Research Method for Tourist Visitors in Urban Areas.

Appendix 1. Questionnaire Sheet about the Image Around the Shopping Street

1. How often do you come to this s	shopping street?		
a. Everyday b. () times a week	c. () times a month	d. () time	es a year
e. miscellaneous ()		
2. What is the purpose of visiting h	nere? (Plural answers allo	owed)	
a. shopping b. eating and drinkin	g c. business d. celeb	oration,event	e. leisure, amusement
f. miscellaneous ()		

3. How do you feel about the image of the surrounding area at this shopping street?

Select the position

befeet the positi	1011						
	Beautiful	ě	•	•	•	•	Ugly
	he united	•	•	•	•	•	Scattered
feelin	g there is						
	Varied	•	•	•	•	•	Featureless
	New	•	•	•	•	•	Historic
Full	of nature	•	•	•	•	•	Urban
	Cheerful	•	•	•	•	•	Gloomy
Indiv	idualistic	•	•	•	•	•	Conventional
	Friendly	•	•	•	•	•	Unfriendly
	Healed	•	•	•	•	•	Stimulated
	Open	•	•	•	•	•	exclusive
Want	to reside	•	•	•	•	•	Do not want to reside
	Warm	•	•	•	•	•	Aloof
Fa	scinating	•	•	•	•	•	Not fascinating
Wai	nt to play	•	•	•	•	•	Want to examine deliberately
	Lively	•	•	•	•	•	Calm
Atmo	sphere of	•	•	•	•	•	Atmosphere of rural area
	urban						

- 4. There are many old building at the age of nearly 50 years. Do you think we can still use them?
- a. Can use it b. Cannot use it C. Have no idea
- 5. Is there any functions or facilities that will be useful?

6. Comments	

- 7. Sex
- a. Male b. Female
- 8. Age
- a.10th b.20th c.30th d.40th e.50th f.6th g. More than 70
- 9. Residence
- a. Fuji City b. Fujinomiya City c. Numazu City d. Mishima City e. Shizuoka City f. Miscellaneous in Shizuoka Prefecture
- g. Outside of Shizuoka Prefecture [

Appendix 2. Calculated Posterior Probability

			The purpose o	f visiting	iting [7			The image of	he surrounding	area at this sh	opping street												$\overline{}$
name_fuji	state	Prior	Shapping	Eating and	Business	Celebration,	Leisure,	Beautiful	Ugly	Of the united feeling there is	Scattered	Varied	Feature less	New	Historic	Full of nature	Urlan	Cheerful	Gleony	Individualistic	Conventional	Friendly	Unfriendly
	Shoppi ng	0.215	1	0211	0.208	0.211	0.233	0.216	0.211	0.212	0.214	0.209	0.215	0.222	0.216	0.217	0.211	0.214	0.215	0.208	0.214	0.210	0.222
Tt	Eating and drinking	0.174	0.172	1	0.197	0.191	0.155	0.167	0.178	0.163	0.183	0.166	0.175	0.181	0.173	0.166	0.169	0.169	0.180	0.157	0.187	0.163	0.178
The purpose of visiting	Business	0.103	0.101	0.117	1	0.113	0.090	0.099	0.105	0.096	0.106	0.098	0.102	0.103	0.102	0.099	0.099	0.099	0.106	0.092	0.112	0.097	0.104
	Celebration, event	0.396	0.392	0.433	0.435	1	0.374	0.380	0.407	0.374	0.416	0.381	0.401	0.404	0.394	0.380	0.390	0.372	0.410	0.364	0.421	0.373	0.411
	Leisure, amusement	0.089	0.098	0.080	0.079	0.084	1	0.091	0.085	0.088	0.090	0.087	0.091	0.092	0.090	0.092	0.090	0.085	0.089	0.088	0.087	0.088	0.096
	Beautiful	0.339	0.342	0.324	0.328	0.326	0.346	1	0	0.347	0.328	0.347	0.336	0.336	0.341	0.349	0.339	0.352	0.331	0.352	0.330	0.350	0.331
	Ligly	0.292	0.287	0.299	0.299	0.300	0.285	0.000	1	0.288	0.301	0.293	0.294	0.288	0.293	0.290	0.295	0.284	0.296	0.294	0.296	0.290	0.298
	Of the united feeling there is	0.255	0.251	0.239	0.241	0.240	0.253	0.250	0.251	1	0	0.264	0.250	0.248	0.255	0.260	0.257	0.268	0.247	0.273	0.241	0.267	0.243
	Seattered	0.381	0.381	0.399	0.392	0.400	0.390	0.368	0.392	0	1	0.368	0.392	0.389	0.380	0.369	0.385	0.354	0.395	0.361	0.398	0.361	0.406
	Varied	0.175		0.167	0.167	0.168	0.171	0.179	0.176	0.181	0.169	1	0	0.170	0.176	0.180	0.177	0.182	0.170	0.187	0.169		0.168
	Feature less	0.490		0.491	0.487	0.496	0.503	0.484	0.494	0.481	0.504	0	1	0.493	0.489	0.485	0.496	0.473	0.497	0.482	0.496	0.480	0.506
	New	0.124	0.128	0.129	0.124	0.127	0.128	0.123	0.122	0.120	0.127	0.120	0.125	1	0	0.122	0.122	0.123	0.125	0.117	0.126	0.119	0.127
	Historic	0.561	0.565	0.557	0.556	0.559	0.570	0.564	0.563	0.562	0.560	0.564	0.561	0	1	0.564	0.560	0.561	0.560	0.564	0.559	0.563	0.562
	Full of nature	0.370	0.374	0.350	0.358	0.355	0.381	0.380	0.367	0.379	0.359	0.379	0.367	0.364	0.372	1	0	0.382	0.362	0.386	0.360	0.382	0.364
	Urlses	0.231	0.228	0.225	0.223	0.228	0.235	0.231	0.233	0.233	0.235	0.233	0.234	0.227	0.231	0	1	0.228	0.233	0.239	0.229	0.233	0.235
	Cleerful	0.259	0.259	0.251	0.249	0.244	0.249	0.268	0.252	0.273	0.241	0.269	0.250	0.256	0.259	0.267	0.255	1	0	0.277	0.244	0.273	0.239
	Gloomy	0.432	0.434	0.444	0.445	0.447	0.435	0.421	0.438	0.419	0.448	0.420	0.439	0.435	0.431	0.422	0.434	0	1	0.413	0.445	0.416	0.451
	Individualistic	0.238	0.232	0214	0.213	0.218	0.237	0.247	0.240	0.255	0.226	0.254	0.235	0.226	0.239	0.248	0.245	0.254	0.228	1		0.257	0.226
	Conventional	0.438	0.440	0.471	0.479	0.466	0.432	0.426	0.445	0.416	0.458	0.422	0.444	0.447	0.437	0.426	0.434	0.414	0.453	0	1	0.416	0.457
The image of	Friendly	0.443	0.434	0.413	0.416	0.417	0.435	0.456	0.439	0.465	0.421	0.464	0.435	0.427	0.445	0.457	0.447	0.468	0.427	0.479	0.420	1	0
the surrounding area at this	Unfriendly	0.236	0.245	0242	0.242	0.246	0.257	0.230	0.241	0.225	0.252	0.226	0.244	0.242	0.236	0.232	0.240	0.218	0.246	0.223	0.246		1
shopping street	Healed	0.285	0.279	0.279	0.282	0.275	0.267	0.291	0.283	0.295	0.271	0.295	0.278	0.277	0.285	0.291	0.283	0.301	0.276	0.300	0.275	0.297	0.268
	Stimulated	0.180	0.187	0182	0.185	0.183	0.193	0.178	0.183	0.176	0.188	0.174	0.184	0.182	0.179	0.180	0.184	0.174	0.185	0.178	0.184		0.192
	Open	0.257	0.254	0.236	0.239	0.237	0.256		0.247	0.273	0.238	0.268	0.250	0.248	0.256	0.265	0.257	0.276	0.245	0.276	0.240	0.273	0.237
	Exclusive Want to reside	0.393	0.407		0.404	0.411	0.407	0.381	0.401	0.377	0.412	0.370	0.400	0.400	0.393	0.247	0.391	0.373	0.236	0.256	0.408	0.372	0.418
		0.241	0.397	0.396	0.392		0.240		0.395	0.390	0.405	0.247	0.401	0.257	0.394		0.399	0.232	0.403	0.230	0.399		0.407
	Do not want to reside	0.398		0.375	0.370	0.375	0.395	0.409	0.393	0.416	0.381	0.413	0.392	0.391	0.398	0.409	0.402	0.422	0.383	0.427	0.377	0.418	0.407
	Alcof	0.252	0.254	0.264	0.269	0.265	0.353	0.409	0.259	0.243	0.263	0.244	0.256	0.253	0.252	0.245	0.252	0.237	0.262	0.240	0.263	0.410	0.265
	Fascinating	0.223	0.222	0.205	0.210	0.208	0.223	0.232	0.217	0.237	0.207	0.233	0217	0.216	0.224	0.232	0.223	0.240	0.214	0.242	0.210	0.238	0.208
	Not facinating	0.423	0.424	0.435	0.430	0.436	0.428	0.415	0.429	0.413	0.438	0.415	0.429	0.427	0.422	0.416	0.425	0.406	0.432	0.410	0.433	0.411	0.438
	Want to play	0.218	0.217	0.202	0.198	0.200	0.216	0.228	0.207	0.233	0.198	0.229	0.210	0.215	0.218	0.226	0.214	0.242	0.204	0.235	0.201	0.234	0.196
	Want to examine	0.312	0.321	0314	0312	0.313	0.330	0.310	0.310	0.310	0.318	0.306	0.316	0.317	0.311	0.312	0.315	0.307	0.316	0.308	0.314	0.306	0.323
	delihe rate ly Lively	0.181	0.178	0175	0.176	0.173	0.174	0.186	0.179	0.188	0.172	0.188	0177	0.177	0.181	0.186	0.180	0.193	0.175	0.191	0.174	0.190	0.170
	Calm	0.520	0.530	0.528	0.527	0.528	0.538	0.514	0.521	0.511	0.533	0.508	0.526	0.527	0.519	0.515	0.523	0.507	0.530	0.508	0.529	0.507	0.539
	Atmosphere of urban	0.097	0.095	0.099	0.097	0.099	0.090	0.095	0.099	0.097	0.097	0.097	0.096	0.097	0.097	0.095	0.096	0.097	0.097	0.097	0.097	0.097	0.095
	Atmosphere of rural	0.629	0.630	0.633	0.626	0.635	0.643	0.623	0.631	0.622	0.641	0.623	0.635	0.633	0.628	0.624	0.633	0.615	0.636	0.621	0.635	0.621	0.642
	Male	0.433	0.364	0.485	0.556	0.492	0.285	0.390	0.444	0.425	0.442	0.416	0.431	0.380	0.419	0.392	0.436	0.384	0.476	0.393	0.477	0.413	0.421
Gender	Female	0.567	0.636	0.515	0.444	0.508	0.715	0.610	0.556	0.575	0.558	0.584	0.569	0.620	0.581	0.608	0.564	0.616	0.524	0.607	0.523	0.587	0.579
	10h	0.205	0.172	0.082	0.088	0.111	0.197	0.244	0.195	0.292	0.137	0.273	0.185	0.141	0.208	0.248	0.236	0.278	0.163	0.343	0.117	0.295	0.135
	20th	0.166	0.203	0.219	0.256	0.169	0.124	0.177	0.136	0.168	0.133	0.148	0.142	0.189	0.159	0.176	0.137	0.225	0.153	0.138	0.178	0.158	0.141
	30h	0.251	0.229	0.263	0.286	0.277	0.261	0.263	0.240	0.216	0.247	0.258	0.248	0.253	0.259	0.253	0.220	0.216	0.242	0.191	0.281	0.245	0.234
Age	40h	0.170	0.168	0.225	0.139	0.203	0.143	0.130	0.174	0.159	0.198	0.140	0.179	0.212	0.165	0.119	0.158	0.156	0.186	0.133	0.175	0.135	0.178
	50th	0.102	0.081	0.140	0.146	0.136	0.058	0.089	0.160	0.079	0.146	0.108	0.115	0.089	0.104	0.097	0.119	0.076	0.118	0.116	0.127	0.091	0.135
	60th	0.070	0.079	0.051	0.053	0.066	0.133	0.063	0.056	0.056	0.103	0.048	0.093	0.080	0.064	0.066	0.099	0.032	0.091	0.052	0.082	0.049	0.116
	More than 70	0.035	0.069	0.019	0.032	0.037	0.086	0.034	0.039	0.030	0.037	0.025	0.038	0.035	0.041	0.041	0.030	0.017	0.047	0.025	0.039	0.026	0.061
Ц	1						l				<u> </u>									\Box			

Ti- :	· · · · · · · · · · · · · · · · · · ·															C4		IA						
I he image of	Stimulated	g area at this sh	Exclusive	Want to reside	Do not want to	Wieren	Aloof	Fascinating	Not fascinating	Wantto play	Water	Lively	Calm	Almosphere of	Atmosphere of	Gender	Fenule	Age	204	206	40%	50th 6	23-6	More than 70
TT LINE OF		Open			10 february 10 10 10 10 10 10 10 10 10 10 10 10 10		0.216		0.214		deliberately 0.220		0.219	urhan	nural area 0.215			1.041		0.196		0.170	0.040	
0.210	0.222	0.212		0.216		0212	0.210		0.214	0.213	0.174	0.211		0211		0.181	0.240				0.212	$\overline{}$	0.240	
0.171				0.165		0.164				0.162		0.169		0.179	0.175	0.195	0.158			0.182	0.230	0.240	0.127	0.095
0.102			0.106	0.097	0.101	0.096	0.109	0.096	0.105	0.093	0.102	0.101	0.103	0.103	0.102	0.132	0.080	0.044		0.117	0.084	0.148	0.077	0.095
0.383		0.366	0.414	0.377	0.400	0.373	0.417	0.367	0.408	0.362	0.396	0.379	0.401	0.404	0.399	0.449	0.355	0.214		0.437	0.473	0.531	0.371	0.419
0.083	0.093	0.088		0.090	0.091	0.039	0.088	0.090	0.089	0.089	0.092	0.085	0.091	0.084	0.090	0.058	0.112	0.085	0.066	0.092	0.075	0.050	0.168	0.216
0.347	0.335	0.352	0.329	0.347	0.334	0.349	0.328	0.353	0.333	0.356	0.337	0.349	0.335	0.335	0.336	0.306	0.365	0.403	0.362	0.354	0.259	0.297	0.305	0.333
0.290	0.296	0.280	0.298	0.289	0.292	0.288	0.300	0.284	0.296	0.278	0.290	0.288	0.293	0.298	0.293	0.300	0.286	0.278	0.238	0.279	0.298	0.460	0.233	0.323
0.264		0.271	0.244	0.264		0.266	0.245	0.270	0.248	0.271	0.253	0.265	0.250	0.254	0.252	0.250	0.258	0.363	0.258	0.219	0.238	0.197	0.204	0.220
0.362	0.397	0.352	0.400	0.368	0.390	0.364	0.398	0.353	0.394	0.345	0.387	0.361	0.390	0.382	0.388	0.388	0.375	0.253	0.305	0.374	0.443	0.546	0.556	0.399
0.182		0.183	0.168	0.179	0.172	0.182	0.170	0.183	0.172	0.184	0.171	0.182	0.171	0.176	0.173	0.169	0.180	0.233	0.156	0.180	0.144	0.185	0.120	0.124
0.478	0.500	0.476		0.484	0.497	0.482	0.497	0.476	0.497	0.470	0.495	0.478		0.487	0.495	0.488	0.491	0.441	0.419	0.482	0.516	0.552	0.651	0.533
0.120	0.125	0.120	0.128	0.122	0.125	0.122	0.125	0.120	0.125	0.123	0.126	0.121	0.126	0.124	0.125	0.109	0.135	0.085	0.141	0.125	0.154	0.109	0.142	0.124
0.562	0.560	0.561	0.562	0.562	0.560	0.562	0.561	0.564	0.561	0.563	0.550	0.551	0.560	0.563	0.561	0.543	0.575	0.569	0.537	0.578	0.546	0.574	0.509	0.656
0.378	0.370	0.383	0.360	0.379	0.364	0.380	0.361	0.384	0.363	0.385	0.369	0.380	0.367	0.364	0.367	0.335	0.397	0.447	0.390	0.372	0.260	0.354	0.349	0.430
0.230	0.237	0.232	0.230	0.234	0.234	0.234	0.231	0.231	0.232	0.227	0.233	0.230	0.233	0.228	0.233	0.233	0.230	0.266	0.190	0.202	0.215	0.272	0.327	0.199
0.274	0.250	0.278	0.246	0.270	0.250	0.275	0.244	0.278	0.249	0.287	0.255	0.275	0.252	0.260	0.253	0.229	0.281	0.350	0.350	0.222	0.237	0.194	0.116	0.124
0.418	0.445	0.413	0.447	0.423	0.441	0.415	0.448	0.413	0.441	0.402	0.437	0.416	0.440	0.431	0.437	0.474	0.399	0.342	0.398	0.416	0.473	0.500	0.556	0.581
0.251	0.236	0.257	0.225	0.252	0.234	0.256	0.226	0.257	0.231	0.256	0.235	0.251	0.233	0.239	0.235	0.217	0.255	0.399	0.198	0.181	0.187	0.272	0.178	0.172
0.424	0.448	0.410	0.456	0.421	0.443	0.415	0.457	0.411	0.449	0.403	0.441	0.422	0.446	0.439	0.442	0.483	0.404	0.251	0.469	0.490	0.452	0.549	0.513	0.485
0.462	0.429	0.472	0.420	0.459	0.433	0.465	0.423	0.471	0.430	0.476	0.434	0.454	0.432	0.442	0.437	0.423	0.458	0.637	0.421	0.432	0.352	0.394	0.309	0.333
0.222	0.252	0.218	0.251	0.230	0.244	0.225	0.249	0.221	0.244	0.213	0.244	0.222	0.245	0.233	0.241	0.230	0.241	0.155	0.200	0.220	0.248	0.314	0.389	0.409
1	0	0.300	0.272	0.292	0.277	0.295	0.275	0.299	0.278	0.301	0.279	0.299	0.278	0.287	0.280	0.288	0.283	0.365	0.334	0.280	0.237	0.275	0.145	0.162
0	1	0.172	0.139	0.181	0.184	0.176	0.188	0.173	0.184	0.167	0.187	0.174	0.185	0.175	0.182	0.177	0.182	0.154	0.203	0.121	0.165	0.248	0.295	0.285
0.270	0.245	1	0	0.268	0.251	0.272	0.240	0.279	0.246	0.284	0.253	0.272	0.249	0.253	0.252	0.252	0.260	0.388	0.284	0.246	0.207	0.120	0.211	0.162
0.375	0.412	0	1	0.384	0.403	0.375	0.412	0.370	0.404	0.362	0.403	0.373	0.404	0.396	0.398	0.387	0.397	0.251	0.392	0.345	0.494	0.489	0.465	0.656
0.247	0.242	0.252	0.235	1	0	0.250	0.235	0.252	0.237	0.253	0.242	0.248	0.240	0.239	0.239	0.226	0.253	0.315	0.261	0.195	0.217	0.217	0.233	0.247
0.383	0.404	0.387	0.405	0	1	0.388	0.403	0.386	0.401	0.381	0.401	0.383	0.401	0.393	0.399	0.409	0.383	0.367	0.343	0.357	0.463	0.380	0.538	0.495
0.413	0.388	0.422	0.380	0.412	0.391	1	0	0.421	0.387	0.430	0.394	0.415	0.390	0.397	0.394	0.352	0.433	0.549	0.402	0.363	0.363	0.343	0.331	0.210
0.243	0.262	0.236	0.265	0.245	0.257	0	1	0.238	0.259	0.229	0.255	0.241	0.257	0.254	0.255	0.285	0.227	0.183	0.237	0.234	0.279	0.340	0.280	0.409
0.234	0.214	0.243	0.210	0.233	0.218	0.237	0212	1	0	0.248	0.219	0.236	0.217	0.221	0.219	0.210	0.233	0.332	0.238	0.216	0.176	0.131	0.145	0.220
0.412	0.432	0.406	0.435	0.415	0.430	0.411	0.435	0	1	0.400	0.427	0.411	0.429	0.425	0.427	0.441	0.410	0.348	0.381	0.416	0.472	0.503	0.505	0.485
0.231	0.201	0.241	0.201	0.228	0.210	0.235	0.199	0.240	0.207	1	0	0.234	0.209	0.218	0.213	0.180	0.246	0.322	0.247	0.232	0.207	0.071	0.095	0.086
0.306	0.325	0.307	0.320	0313	0.317	0.309	0.315	0.307	0.315	0	1	0.307	0.319	0.308	0.315	0.301	0.321	0.283	0.343	0.261	0.329	0.309	0.436	0.388
0.190	0.175	0.192	0.172	0.186	0.176	0.189	0.173	0.191	0.176	0.195	0.178	1	0	0.181	0.178	0.175	0.186	0.234	0.215	0.181	0.144	0.157	0.116	0.086
0.507	0.539	0.505	0.535	0.517	0.528	0.510	0.531	0.506	0.527	0.500	0.530	0	1	0.515	0.524	0.516	0.522	0.444	0.535	0.463	0.556	0.560	0.695	0.656
0.097	0.094	0.095	0.098	0.096	0.096	0.097	0.097	0.096	0.097	0.097	0.095	0.096	0.096	1	0	0.098	0.096	0.094	0.086	0.097	0.124	0.112	0.047	0.086
0.618	0.637	0.618	0.638	0.624	0.636	0.622	0.636	0.618	0.635	0.615	0.634	0.618	0.634	0	1	0.629	0.629	0.585	0.566	0.620	0.679	0.657	0.764	0.656
0.438	0.427	0.426	0.427	0.405	0.449	0.383	0.490	0.408	0.451	0.359	0.417	0.419	0.430	0.439	0.433	1	0	0.433	0.433	0.433	0.433	0.433	0.433	0.433
0.562	0.573	0.574	0.573	0.595	0.551	0.617	0.510	0.592	0.549	0.641	0.583	0.581	0.570	0.561	0.567	0	1	0.567	0.567	0.567	0.557	0.567	0.567	0.567
0.263	0.175	0.310	0.131	0.269	0.191	0.283	0.149	0.305	0.169	0.304	0.185	0.266	0.175	0.200	0.191	0.205	0.205	1	0	0	0	0	0	0
0.195	0.188	0.134	0.166	0.180	0.145	0.168	0.156	0.178	0.150	0.189	0.183	0.197	0.171	0.147	0.150	0.166	0.166	0	1	0	0	0	0	0
0.247	0.170	0.241	0.221	0.203	0.228	0.229	0.234	0.243	0.247	0.268	0.210	0.252	0.224	0.251	0.248	0.251	0.251	0	0	1	0	0	0	0
0.141	0.156	0.137	0.214	0.153	0.199	0.155	0.189	0.134	0.190	0.162	0.179	0.135	0.182	0.219	0.184	0.170	0.170	0	0	0	1	0	0	0
0.098	0.140	0.048	0.126	0.092	0.098	0.088	0.137	0.060	0.121	0.033	0.101	0.088	0.110	0.117	0.106	0.102	0.102	0	0	0	0	1	0	0
0.036	0.115	0.058	0.083	0.068	0.096	0.058	0.078	0.046	0.084	0.031	0.098	0.045	0.094	0.034	0.085	0.070	0.070	0	0	0	0	0	1	0
0.020	0.056	0.022	0.059	0.036	0.044	0.019	0.057	0.035	0.040	0.014	0.044	0.017	0.044	0.031	0.037	0.035	0.035	0	0	0	0	0	0	1
	1					l .	l			l	l		-					1	1	1	l			

Appendix 3. Difference of Probability

			The purpose o	Fricities				The image of	fna sucrementino	; area at this sho	voning street												
name_fuji	state	Prior	Shopping	Esting and	Business	Celebration,	Leisure,	Beautiful	Usly	Of the united	Seattered	Varied	Featureless	New	Historic	Full of nature	Urhan	Cheerful	Gleony le	rdi vidualistic	Conventional	Friendly	Unfriendly
	Shopping.	0.215	1	drinking -0.004	-0.006	-0.003	anusement 0.019	0.002	-0.004	feeling there is -0.002	-0.001	-0.005	0.000	0.008	0.001	0.002	-0.003	0.000	0.000	-0.007	-0.001	-0.004	0.007
	Eating and drinking	0.174	-0.002	1	0.023	0.017	-0.020	-0.007	0.004	-0.011	0.009	-0.008	0.001	0.007	-0.001	-0.008	-0.005	-0.005	0.006	-0.017	0.013	-0.011	0.004
The purpose of visiting	Resinces	0.103	-0.001	0.015	1	0.010	-0.012	-0.003	0.002	-0.006	0.003	-0.004	0.000	0.001	-0.001	-0.003	-0.003	-0.004	0.004	-0.010	0.009	-0.006	0.002
	Celebration, event	0.396	-0.004	0.038	0.040	1	-0.022	-0.015	0.011	-0.022	0.020	-0.015	0.005	0.008		-0.016	-0.006	-0.023	0.014	-0.032	0.025	-0.022	0.016
	Leisure, amusement	0.089	0.009	-0.009	-0.010	-0.004	1	0.002	-0.003	-0.001	0.001	-0.002	0.002	0.003		0.003	0.001	-0.003	0.000	-0.001	-0.002	-0.001	0.007
	Boatiful	0.339	0.003	-0.015	-0.012	-0.013	0.006	0.002	0	0.008	-0.011	0.002	-0.004	-0.004		0.010	0.000	0.012	-0.008	0.001	-0.002	0.011	-0.008
	Ugly	0.292	-0.005	0.007	0.007	0.008	-0.006	1	1	-0.004	0.009	0.001	0.003	-0.003	0.001	-0.002	0.003	-0.008	0.004	0.002	0.004	-0.002	0.006
	Of the united feeling	0.255	-0.003	-0.016	-0.014	-0.014	-0.002	0.006	-0.004	1	0.009	0.002	-0.004	-0.007	0.001	0.002	0.002	0.013	-0.008	0.018	-0.013	0.013	-0.012
	there is Scattered	0.381	0.000	0.018	0011	0.019	0.009	-0.012	0.011	0	1	-0.013	0.001	0.008	-0.001	-0.011	0.006	-0.027	0.014	-0.020	0.017	-0.019	0.026
	Varied	0.175	-0.005	-0.008	-0.008	-0.007	-0.004	0.004	0.001	0.006	-0.006	0.013	0.011	-0.006	0.001	0.004	0.001	0.007	-0.005	0.020	-0.007	0.008	-0.007
	Feature less	0.490	0.001	0.002	-0.003	0.007	0.014	-0.006	0.001	-0.008	0.014	1	1	0.004		-0.005	0.006	-0.017	0.003	-0.008	0.007	-0.009	0.016
	Non	0.124	0.001	0.002	0.000	0.003	0.014	-0.001	-0.001	-0.003	0.003	-0.004	0.001	0.007	0.000	-0.002	-0.002	-0.001	0.001	-0.007	0.007	-0.009	0.003
	Missois	0.124	0.004	-0.004	-0.005	-0.002	0.004	0.002	0.002	0.000	-0.001	0.002	0.000	1	1	0.003	-0.002	0.000	-0.002	0.002	-0.002	0.004	0.003
	Full of nature	0.370		-0.020	-0.012				-0.002					0.005	0,000	0.005	-0.001	0.012			-0.002	0.002	-0.001
	Full of nature Urban	0.370	-0.003	-0.020	-0.012	-0.015 -0.003	0.011	0.010	-0.003	0.009	-0.011	0.009	-0.003 0.003	-0.006		1	0	-0.003	-0.008	0.016	-0.010	0.012	-0.006
	Che orful	0.251	0.000	-0.007	-0.008	-0.003	-0.010	0.000	-0.002	0.002	-0.018	0.002	-0.009	-0.004	0.000	0.008	-0.003	-0.003	0001	0.018	-0.002	0.002	-0.020
	Checriul	0.259	0.000	0.013	0.014	0.015	0.004	-0.011	0.006	-0.014	0.016	-0.012	0.007	0.003	-0.001	-0.009	0.003	1	1	-0.018	0.014	-0.015	0.019
	Individualistic	0.452	-0.007	-0.025	-0.025	-0.020	-0.001	0.008	0.002	0.017	-0.012	0.012	-0.004	-0.012		0.010	0.007	0.016	-0.010	-0.018	0.014	0.019	-0.019
	Conventional	0.438	0.001	0.033	0.040	0.028	-0.001	-0.012		-0.023				0.002		-0.010	-0.004	-0.024		1	,	-0.023	0.019
	Friendly	0.458	-0.009	-0.030	-0.027	-0.026	-0.008	0.012	-0.007	0.022	-0.020	-0.016 0.021	-0.008	-0.016		0.014	0.004	0.025	0.014 -0.016	0.036	-0.023	-0.025	0.019
The image of	Unfriendly	0.443		0.006	0.005	0.009				-0.011				0.006		-0.004		-0.018		-0.013	0.010	0	-
the surrounding area at this	Unfriendly Healed	0.250	-0.008	-0.006	-0.003	-0.010	-0.021	-0.006	-0.005	0.010	-0.016	-0.010 0.010	-0.008	-0.008		0.006	-0.002	0.018	-0.009	-0.013	-0.010	0.012	0.017
shopping street		0.180	0.007	0.002	0.005	0.003	0.018	-0.002	0.002	-0.004	0.008	40.005	0.007			0.000	0.002	-0.006	0.009	-0.002	0.004	-0.012	-0.017 0.012
	Stimulated													0.002									
	Open	0.257	-0.003	-0.021	-0.017	-0.019	-0.001	0.010	-0.010	0.017	-0.019	0.011	-0.007	-0.008		0.009	0.001	0.020	-0.011	0.020	-0.017	0.017	-0.019
	Exclusive	0.393	0.014	0.020	0.011	0.018	0.014	-0.011	0.008	-0.016	0.020	-0.017	0.008	0.013		-0.010	-0.001	-0.020	0.014	-0.023	0.015	-0.021	0.025
	Want to reside	0.241	0.002	-0.011	-0.010	-0.011	0.005	0.005	-0.002	0.009	-0.008	0.006	-0.002	-0.004		0.006	0.003	0.011	-0.005	0.015	-0.009	0.009	-0.006
	Do not want to reside	0.395	0.002	0.002	-0.003	0.005	0.011	-0.006	0.000	-0.004	0.010	-0.008	0.006	0.003		-0.006	0.005	-0.013	0.009	-0.006	0.005	-0.008	0.013
	Warm	0.398	-0.005	-0.023	-0.028	-0.023	-0.003	0.012	-0.005	0.018	-0.017	0.015	-0.006	-0.007	0.001	0.011	0.004	0.025	-0.014	0.030	-0.021	0.020	-0.019
	Alcof	0.252	0.002	0.012	0.017	0.013	-0.001	-0.008	0.007	-0.009	0.012	-0.008	0.004	0.002		-0.007	0.000	-0.015	0.010	-0.012	0.011	-0.011	0.013
	Fascinating	0.223	-0.001	-0.018	-0.013	-0.016	0.000	0.009	-0.006	0.014	-0.016	0.010	-0.006	-0.007	0.001	0.009	0.000	0.017	-0.009	0.018	-0.014	0.015	-0.015
	Not fascinating	0.423	0.001	0.012	0.007	0.013	0.005	-0.008	0.006	-0.011	0.014	-0.008	0.006	0.004	-0.001	-0.007	0.002	-0.017	0.009	-0.013	0.010	-0.012	0.015
	Want to play Want to examine	0.218	-0.001	-0.016	-0.020	-0.018	-0.001	0.011	-0.010	0.015	-0.020	0.011	-0.008	-0.003	0.001	0.009	-0.004	0.024	-0.014	0.018	-0.017	0.016	-0.022
	deliberately	0.312	0.009	0.002	0.000	0.000	0.018	-0.002	-0.002	-0.003	0.005	-0.007	0.003	0.005	-0.001	-0.001	0.003	-0.005	0.004	-0.004	0.002	-0.006	0.010
	Lively	0.181	-0.003	-0.006	-0.005	-0.008	-0.008	0.005	-0.003	0.007	-0.009	0.007	-0.004	-0.004	0.000	0.005	-0.001	0.012	-0.007	0.009	-0.007	0.008	-0.011
	Calm	0.520	0.010	0.009	0.007	0.008	0.018	-0.006	0.001	-0.009	0.014	-0.012	0.007	0.008		-0.004	0.004	-0.013	0.010	-0.012	0.009	-0.013	0.019
	Atmosphere of urban Atmosphere of rural	0.097	-0.002	0.003	0.000	0.002	-0.006	-0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	-0.002	-0.001	0.001	0.000	0.000	0.000	0.000	-0.001
	arca	0.629	0.001	0.004	-0.003	0.006	0.014	-0.005	0.003	-0.007	0.012	-0.006	0.006	0.004		-0.005	0.004	-0.014	0.007	-0.008	0.006	-0.008	0.013
Gender	Male	0.433	-0.068	0.052	0.123	0.059	-0.148	-0.043	0.011	-0.008	0.009	-0.016	-0.002	-0.052		-0.041	0.004	-0.049	0.043	-0.040	0.044	-0.020	-0.012
	Female	0.567	0.068	-0.052	-0.123	-0.059	0.148	0.043	-0.011	0.008	-0.009	0.016	0.002	0.052		0.041	-0.004	0.049	-0.043	0.040	-0.044	0.020	0.012
	10th	0.205	-0.033	-0.123	-0.117	-0.094	-0.009	0.038	-0.010	0.087	-0.069	0.068	-0.020	-0.064		0.043	0.030	0.073	-0.043	0.138	-0.088	0.090	-0.071
	20th	0.166	0.037	0.053	0.090	0.002	-0.043	0.011	-0.030	0.002	-0.033	-0.018	-0.024	0.023		0.009	-0.029	0.059	-0.013	-0.028	0.012	-0.008	-0.025
	30th	0.251	-0.022	0.012	0.034	0.026	0.009	0.011	-0.011	-0.036	-0.004	0.007	-0.004	0.002		0.001	-0.031	-0.036	-0.009	-0.060	0.030	-0.006	-0.017
Age	40th	0.170	-0.002	0.055	-0.031	0.033	-0.027	-0.040	0.004	-0.011	0.028	-0.030	0.009	0.042		-0.051	-0.012	-0.014	0.016	-0.037	0.005	-0.035	0.008
	50th	0.102	-0.021	0.039	0.045	0.035	-0.044	-0.013	0.058	-0.023	0.044	0.006	0.013	-0.013		-0.004	0.018	-0.025	0.016	0.014	0.026	-0.011	0.034
	60th	0.070	0.008	-0.019	-0.018	-0.004	0.062	-0.007	-0.014	-0.014	0.032	-0.022	0.023	0.010	-0.007	-0.004	0.029	-0.039	0.020	-0.018	0.012	-0.021	0.045
	More than 70	0.085	0.083	-0.016	-0.003	0.002	0.050	-0.001	0.004	-0.005	0.002	-0.010	0.003	0.000	0.006	0.006	-0.005	-0.018	0.012	-0.010	0.004	-0.009	0.026

The image of the																Gender		A						
Hodel C	ne auriouricang Stimulated	Onco	Exclusive	Want to reside	Do not want to reside	Warm	Alcof	Fascinating	Not fascinating	Wantto play	wan to examine	Lisely	Calm	Aimosphere of	Atmosphere of	Mul-	Fenale	Age	20sh	306	40th	50sh 60	fs.	More than 70
-0.005	0.008	-0.003	0.007	0.001	reside 0.001	-0.003	0.001	-0.001	0.000	-0.002	deliberately 0.006	-0.004	0.004	unfram -0.004	ruralarea 0.000	-0.034	0.026	-0.035	0.048	-0.019	-0.003	-0.044	0.025	0.204
-0.003	0.001	-0.014	0.007	-0.009	0.000	-0.010	0.001	-0.001	0.005	-0.012	0.000	-0.005	0.002	0.005	0.001	0.021	-0.016	-0.104	0.055	0.008	0.056	0.066	-0.047	-0.079
0.000	0.002	-0.007	0.003	-0.005	-0.001	-0.007	0.007	-0.007	0.002	-0.009	0.000	-0.002	0.001	0.000	-0.001	0.029	-0.022	-0.059	0.055	0.014	-0.019	0.045	-0.026	-0.008
-0.012	0.005	-0.030	0.019	-0.019	0.004	-0.023	0.021	-0.029	0.012	-0.034	0.000	-0.016	0.006	0.008	0.004	0.054	-0.041	-0.182	0.006	0.041	0.078	0.135	-0.025	0.023
-0.005	0.005	-0.001	0.003	0.001	0.002	0.000	-0.001	0.001	0.000	0.000	0.004	-0.004	0.003	-0.004	0.001	-0.030	0.023	-0.004	-0.023	0.003	-0.014	-0.038	0.079	0.127
0.008	-0.004	0.013	-0.010	0.007	-0.006	0.010	-0.011	0.013	-0.007	0.016	-0.002	0.010	-0.004	-0.004	-0.003	-0.034	0.026	0.064	0.022	0.015	-0.080	-0.042	-0.034	-0.006
-0.001	0.005	-0.011	0.006	-0.003	0.000	-0.004	0.009	-0.008	0.004		-0.002	-0.004	0.001	0.006	0.001	0.008	-0.006	-0.014	-0.053	-0.013	0.007	0.168	-0.059	0.031
0.009	-0.005	0.017	-0.010	0.010	-0.003	0.012	-0.010	0.015	-0.006	0.017	-0.002	0.010	-0.004	0.000	-0.003	-0.005	0.004	0.108	0.003	-0.036	-0.017	-0.058	-0.051	-0.035
-0.018	0.016	-0.028	0.019	-0.012	0.010	-0.017	0.017	-0.027	0.013	-0.035	0.007	-0.020	0.010	0.001	0.007	0.008	-0.006	-0.127	-0.076	-0.007	0.062	0.165	0.176	0.018
0.006	-0.005	0.008	-0.007	0.004	-0.003	0.007	-0.006	0.008	-0.003	0.009	-0.004	0.006	-0.004	0.001	-0.002	-0.007	0.005	0.058	-0.019	0.005	-0.031	0.011	-0.055	-0.052
-0.012	0.011	-0.013	0.010	-0.005	0.007	-0.008	0.008	-0.013	0.007	-0.019	0.005	-0.012	0.006	-0.002	0.005	-0.002	0.002	-0.049	-0.070	-0.007	0.026	0.062	0.161	0.043
-0.003	0.001	-0.004	0.004	-0.002	0.001	-0.002	0.001	-0.004	0.001	-0.001	0.002	-0.003	0.002	0.000	0.001	-0.015	0.011	-0.039	0.017	0.001	0.031	-0.015	0.018	0.000
0.000	-0.002	0.000	0.000	0.000	-0.001	0.001	-0.001	0.002	-0.001	0.002	-0.002	0.000	-0.001	0.001	-0.001	-0.018	0.014	0.007	-0.024	0.017	-0.015	0.013	-0.052	0.095
0.008	0.000	0.013	-0.010	0.009	-0.006	0.010	-0.009	0.014	-0.007	0.015	-0.001	0.010	-0.003	-0.006	-0.003	-0.035	0.027	0.077	0.020	0.002	-0.110	-0.016	-0.021	0.060
-0.002	0.006	0.001	-0.001	0.003	0.003	0.002	0.000	0.000	0.001	-0.004	0.002	-0.001	0.002	-0.003	0.002	0.002	-0.001	0.034	-0.041	-0.029	-0.016	0.040	0.096	-0.032
0.016	-0.009	0.020	-0.013	0012	-0.008	0.016	-0.015	0.019	-0.010	0.028	-0.003	0.017	-0.007	0.001	-0.006	-0.029	0.022	0.092	0.092	-0.037	-0.021	-0.064	-0.142	-0.135
-0.014	0.014	-0.019	0.015	-0.009	0.009	-0.016	0.017	-0.019	0.010	-0.030	0.006	-0.016	0.008	0.000	0.005	0.043	-0.033	-0.090	-0.033	-0.016	0.041	0.068	0.125	0.149
0.013	-0.003	0.018	-0.014	0.014	-0.005	0.017	-0.012	0.018	-0.007	0.017	-0.003	0.013	-0.006	0.000	-0.003	-0.022	0.017	0.160	-0.040	-0.057	-0.052	0.033	-0.060	-0.067
-0.014	0.010	-0.028	0.017	-0.017	0.004	-0.023	0.019	-0.028	0.011	-0.035	0.003	-0.016	0.007	0.000	0.004	0.044	-0.034	-0.188	0.031	0.051	0.014	0.110	0.074	0.046
0.020	-0.014	0.029	-0.023	0.016	-0.010	0.022	-0.020	0.029	-0.013	0.033	-0.009	0.021	-0.011	-0.001	-0.006	-0.020	0.015	0.195	-0.022	-0.011	-0.091	-0.048	-0.134	-0.110
-0.014	0.016	-0.018	0.015	-0.006	0.008	-0.012	0.012	-0.016	0.008	-0.024	0.008	-0.014	0.009	-0.003	0.005	-0.006	0.005	-0.081	-0.036	-0.016	0.012	0.078	0.153	0.173
1	0	0.015	-0.013	0.007	-0.008	0.010	-0.010	0.014	-0.007	0.016	-0.006	0.014	-0.007	0.002	-0.005	0.003	-0.002	0.080	0.049	-0.005	-0.048	-0.010	-0.139	-0.123
0	1	-0.008	0.009	0.001	0.004	-0.004	0.008	-0.007	0.004	-0.013	0.007	-0.006	0.007	-0.004	0.002	-0.003	0.002	-0.026	0.024	-0.058	-0.015	0.068	0.115	0.105
0.013	-0.011	1	0	0.012	-0.005	0.016	-0.016	0.022	-0.010	0.028	-0.004	0.015	-0.007	-0.004	-0.004	-0.004	0.003	0.132	0.027	-0.010	-0.050	-0.137	-0.045	-0.095
-0.018	0.019	0	1	-0.009	0.010	-0.018	0.020	-0.023	0.011	-0.030	0.010	-0.020	0.012	0.003	0.006	-0.005	0.004	-0.142	-0.001	-0.048	0.101	0.096	0.073	0.264
0.006	0.001	0.011	-0.006	1	0	0.009	-0.006	0.011	-0.004	0.012	0.001	0.007	-0.001	-0.002	-0.002	-0.016	0.012	0.074	0.020	-0.047	-0.024	-0.024	-0.008	0.006
-0.011	0.010	-0.008	0.010	0	1	-0.006	0.008	-0.009	0.006	-0.013	0.006	-0.011	0.007	-0.001	0.005	0.015	-0.011	-0.028	-0.051	-0.037	0.068	-0.015	0.144	0.100
0.015	-0.010	0.024	-0.018	0.015	-0.007	1	0	0.023	-0.010	0.032	-0.004	0.018	-0.007	-0.001	-0.004	-0.046	0.035	0.151	0.004	-0.035	-0.035	-0.055	-0.067	-0.188
-0.008	0.010	-0.016	0.013	-0.007	0.005	0	1	-0.014	0.007	-0.023	0.003	-0.011	0.005	0.002	0.003	0.033	-0.025	-0.069	-0.015	-0.018	0.027	0.088	0.028	0.157
0.011	-0.009	0.020	-0.013	0.010	-0.005	0.013	-0.011	1	0	0.025	-0.004	0.012	-0.006	-0.002	-0.004	-0.013	0.010	0.108	0.015	-0.008	-0.047	-0.092	-0.078	-0.003
-0.011	0.009	-0.017	0.012	-0.008	0.006	-0.012	0.012	0	1	-0.023	0.004	-0.012	0.006	0.002	0.004	0.018	-0.014	-0.075	-0.042	-0.008	0.049	0.080	0.082	0.061
0.014	-0.017	0.024	-0.017	0.010	-0.008	0.018	-0.019	0.022	-0.011	1	0	0.016	-0.009	0.001	-0.005	-0.037	0.028	0.105	0.030	0.014	-0.011	-0.146	-0.123	-0.132
-0.007	0.013	-0.005	0.008	0.001	0.005	-0.003	0.003	-0.005	0.003	0	1	-0.006	0.006	-0.005	0.002	-0.012	0.009	-0.029	0.031	-0.052	0.016	-0.004	0.124	0.076
0.009	-0.006	0.011	-0.009	0.005	-0.005	0.008	-0.008	0.010	-0.005	0.014	-0.003	1	0	0.000	-0.003	-0.006	0.004	0.053	0.034	0.000	-0.037	-0.024	-0.065	-0.095
-0.013	0.019	-0.014	0.015	-0.003	0.009	-0.009	0.011	-0.014	0.007	-0.020	0.011	0	1	-0.004	0.005	-0.004	0.003	-0.076	0.016	-0.057	0.036	0.040	0.175	0.137
0.001	-0.002	-0.001	0.001	-0.001	0.000	0.000	0.001	-0.001	0.000	0.000	-0.001	0.000	-0.001	1	0	0.001	-0.001	-0.002	-0.011	0.000	0.028	0.015	-0.049	-0.011
-0.011	0.008	-0.011	0.009	-0.005	0.007	-0.007	0.007	-0.011	0.006	-0.014	0.005	-0.011	0.005	0	1	0.000	0.000	-0.044	-0.063	-0.009	0.050	0.028	0.135	0.027
0.005	-0.006	-0.007	-0.006	-0.028	0.016	-0.050	0.057	-0.025	0.018	-0.074	-0.016	-0.014	-0.003	0.006	0.000	1	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-0.005	0.006	0.007	0.006	0.028	-0.016	0.050	-0.057	0.025	-0.018	0.074	0.016	0.014	0.003	-0.006	0.000	0	1	0.000	0.000	0.000	0.000	0.000	0.000	
0.058	-0.030	0.105	-0.074	0.063	-0.015	0.078	-0.056	0.100	-0.037	0.099	-0.019	0.060	-0.030	-0.005	-0.014	0.000	0.000	1	0	0	0	0	0	0
0.028	0.022	0.018	0.000	0.014	-0.022	0.002	-0.010	0.011	-0.017	0.023	0.017	0.031	0.005	-0.019	-0.017	0.000	0.000	0	1	0	0	0	0	0
-0.004	-0.082	-0.010	-0.031	-0.049	-0.024	-0.022	-0.018	-0.009	-0.004	0.016	-0.042	0.001	-0.028	0.000	-0.004	0.000	0.000	0	0	1	0	0	0	0
-0.029	-0.014	-0.033	0.044	-0.017	0.029	-0.015	0.018	-0.036	0.020	-0.008	0.009	-0.035	0.012	0.048	0.013	0.000	0.000	0	0	0	1	0	0	0
-0.004	0.039	-0.054	0.025	-0.010	-0.004	-0.014	0.036	-0.042	0.019	-0.068	-0.001	-0.013	0.008	0.016	0.005	0.000	0.000	0	0	0	0	1	0	0
-0.034	0.045	-0.012	0.013	-0.002	0.026	-0.012	0.008	-0.024	0.014	-0.040	0.028	-0.025	0.024	-0.036	0.015	0.000	0.000	0	0	0	0	0	1	
-0.015	0.021	-0.013	0.024	0.001	0.009	-0.017	0.022	-0.001	0.005	-0.021	0.009	-0.018	0.009	-0.004	0.002	0.000	0.000	0	0	0	0	0	0	
																						-1		