

The Level of Trust and the Consumer Attitude toward Organic Vegetables: Comparison between Japanese and German Consumers

YOKO TANIGUCHI¹

Key words: consumer attitude, consumer characteristics, buying behaviour, trust, organic vegetables

Abstract

This study examined the differences in the consumer's attitude toward and the buying behaviour of organic vegetables in Japan and Germany through two online questionnaire surveys, and tested if the level of trust was related to such differences. The study found that the average level of trust was higher for the German samples when trust was measured by the question items related to organic vegetables (OVT), while the Japanese samples exhibited higher trust when it was measured by the scales of "general trust" (GNT). Both scales of trust were confirmed to be related to the attitude and buying behaviour of organic vegetables including purchase frequency, consumption intensity, and benefit evaluation. OVT was also shown to be associated with the consumer's choice of the channel by which they shop for organic vegetables.

Introduction

It has been a puzzle that the Japanese organic market grows at a much slower rate than in the Western industrialized countries, despite the strong purchasing power. One possible reason for the difference is the gap in the intensity of the sales of organic foods by supermarket chains that have played a major role in expanding the organic market in Europe (Padel and Midmore 2005). When considering the factors that affect the consumers' choice of the channel by which they purchase organic foods, we need to pay attention to the factors related to the credence attributes of organic foods in addition to the factors that applies to foods in general. Since the information that the consumers receive is imperfect, organic foods requires greater efforts to build trust between sellers and buyers than conventional products. Where consumers favour to form trust through transaction experience rather than via certification, there is less possibility of success for a supermarket's entry into the organic business. This study examined how the level of trust was related to the consumers' attitude and buying behaviour of organic foods.

Material and methods

Traditionally, trust between consumers and producers is formed through past transaction experience, but the introduction of the certification system of organic products has enabled the parties to externalize the trust-formation process from their business relationship. In so doing, conventional supermarkets can now handle organic foods by "purchasing" the trust formed through certification, as Zucker (1986) put it, which has probably lowered their transaction costs.

However, whether the certification system to work effectively depends on the preference of consumers on the method of trust formation. If the certification system fails to provide consumers with the sufficient degree of assurance, such market would have to rest on the traditional trust-formation methods, preventing the society from wider adaptation of labelling and subsequent expansion of organic food market. Therefore, it would be natural to consider that the difference in the way consumers form "trust" plays certain roles in the consumers' channel choice.

In this study, two online questionnaire surveys, one in Japan and the other in Germany, were conducted in March 2012 to see the situation of the consumer's attitude and the buying behaviour of organic vegetables, and to measure the level of trust. Some 1,500 and 1,000 samples were collected in Japan and Germany, respectively. All respondents were household food shoppers including singles and non-organic consumers, and were urban residents.

The level of "trust" was measured by asking: 1) five arbitrary questions related to organic vegetables (OVT); and 2) five questions suggested by Yamagishi (1999) as the scales to measure a person's general tendency to trust (GNT). Respondents were asked to rate the degree of agreement by 7-point Likert Scale, and greater points in positive questions were interpreted to be "more trusting" tendency, and greater points in negative questions were taken as "less trusting (=suspicious)" tendency. When comparing the sum, points in negative questions were reversed; i.e., points 1, 2, 3 were replaced with 7, 6, 5, and 5, 6, 7 were replaced

¹ School of Food, Agricultural and Environmental Sciences, Miyagi University. 2-2-1 Hatatate, Taihaku-ku, Sendai-shi, Miyagi 982-0215, Japan. URL: <http://www.myu.ac.jp/english/> Email: taniy@myu.ac.jp

with 3, 2, 1; so that the greater sum indicates the higher level of trust. Having “higher level of trust” means that the person makes an assumption that he/ she can trust others in general, under the circumstances that he/ she does not know who are the others and cannot observe others’ actual behaviour *ex ante*.

Based on the collected data, several comparisons between the Japanese and German samples were made. Firstly, to examine there is truly the difference in the degree of market penetration of organic foods, consumer’s attitude toward and buying behaviour of organic vegetables in each country were compared. Secondly, to see if German samples shows higher level of trust than the Japanese samples, average points of 7-point Lickert scale, as well as sums of the points of the question items included in the level of trust (OVT and GNT) were compared. Finally, the respondents were categorized into three groups according to the level of trust: “high,” “medium,” and “low,” and the results were cross tabulated to see the relationship between the level of trust and the consumers’ attitude and buying behaviour of organic vegetables. Results were tested by the test of independence and were compared between Japanese and German samples.

Results

a) Consumers’ attitude and buying behaviour of organic vegetables

As indicated in Table 1, organic vegetables were more easily available, and the proportion of regular buyers was greater in Germany than in Japan. While 89.9% of German consumers could access to organic vegetables at the retail stores that they usually make their grocery shopping, only 43.4% of Japanese consumers reported that they could do so. The proportion of respondents who purchase organic vegetables at least once a month (hereinafter called “organic consumers”) is 62.9% (n=629) for Germany, and 46% (n=683) for Japan. However, the ratio of the amount of organic vegetables in the entire vegetable consumption in a month did not differ much and the difference was not statistically significant. In both countries, more than half of the organic consumers chose supermarkets as the most important channel to source organic vegetables, but what came in the second place significantly differed: it was farmers market and specialized stores in Germany, whereas it was home deliveries in Japan.

German respondents showed more favourable attitude toward organic vegetables. When compared by the average points of the 7-point Lickert scale with which respondents evaluated the benefits of the organic vegetables, German samples showed significantly higher average in three of the four items. However, Japanese samples showed significantly higher average for the evaluation on “safety.” Although caution is required when comparing stated data based on the subjective interval, the tendency that the Japanese consumers pay attention to “food safety” more than other aspects of organic vegetables would deserve attention.

Table 1: The attitude and buying behavior of organic vegetables

Category		Germany		Japan		
		n	%	n	%	
Availability of organic vegetables at the stores where the respondents use for the daily grocery shopping ^a		899	89.9	651	43.4	**
Ratio of organic vegetables consumed in a month ^a	Less than 40%	783	78.3	1,238	82.6	-
	40% or more	217	21.7	262	17.4	
Frequency of purchasing organic vegetables ^b	Less than once a month	629	37.1	683	55.0	**
	Once a month or more	371	62.9	817	46.0	
Most important channel to purchase organic vegetables ^b (organic consumers only)	Supermarkets	403	64.1	402	58.9	**
	Specialized stores	82	13.0	88	12.9	
	Home deliveries	11	1.75	99	14.5	
	Farmers Market	82	13.0	23	3.7	
	Other	51	8.1	71	10.4	
		average points of 7-point Lickert scale				
Benefits of organic vegetables (average points of 7-point Lickert Scale) ^c	Protect environment	5.03		4.65		**
	Improve health	5.32		4.60		**
	Safe to eat	4.74		5.21		**
	Tasty	5.37		4.70		**

** significant at P<0.01, * significant at P<0.05, - not significant.

^a tested the difference by Z-test, ^b tested the difference by Chi-squared test, ^c tested the difference by t-test

b) Comparison in trust levels

As shown in Table 2, average aggregated points for trust related to organic vegetables (OVT) were higher in German survey, and those for General Trust (GNT) were higher in Japanese survey, and it was hard to determine which population were more trusting. Out of five questions, average points for some questions were higher in German survey, and others were higher in Japan.

With regard to OVT, German consumers were appeared to be more suspicious at the honesty and selflessness of producers and/ or sellers. In contrast, more Japanese consumers doubt the fact the organic production was technically possible. As for GNT, Japanese consumers tend to think themselves have trusting characteristics and believe most people were basically honest. German consumers, on the other hand, considered most people were friendly and kind, more than the Japanese consumers did.

Table 2: Comparison of the level of trust between Japan and Germany (t-test)

	Question items	Average points		
		Germany	Japan	
Trust related to organic vegetables (OVT)	1. It's impossible to produce vegetables without pesticides or chemical fertilizers	2.54	3.67	**
	2. Many vegetables in market are falsely labelled as organic	5.05	4.68	**
	3. Organic vegetables are sold at unreasonably high prices	4.94	4.17	**
	4. Most people would purchase organic vegetables if they are sold in the nearest stores	4.08	4.01	-
	5. It is foolish to buy organic vegetables	2.99	2.59	**
	Sum of the points	23.34	22.58	**
General Trust (GNT)	1. Most people are basically honest	3.75	4.10	**
	2. Compared to average person, I tend to trust others more	3.72	4.53	**
	3. Most people are friendly and kind	4.40	4.29	*
	4. Most people trust others	3.90	3.98	-
	5. Most people are trustworthy	3.79	3.87	-
	Sum of the points	19.56	20.77	**

** significant at $P < 0.01$, * significant at $P < 0.05$, - not significant.

c) Relationship between the level of trust and attitude/ buying behaviour or organic vegetables

Sum of the points for OVT and GNT was normalized so that each scale has zero mean and the variance of 1. Each individual was categorized into three groups: "high" if $x \geq 0.5$, "medium" if $-0.5 \leq x < 0.5$, and "low" if $x < -0.5$ (Table 3). Number of respondents for each category was summarized in Table 3.

As shown in Table 4, trust levels measured by OVT and GNT were significantly related to the consumption ratio, purchase frequency, and benefit evaluation. Respondents with high level of trust in both scales tend to consume more organic vegetables, purchase more frequently, and evaluate the benefits of organic foods highly. Also, as shown in Table 5, higher level of OVT was related to the consumers' choice of the retail channel for organic vegetables. As against the expectation, however, the ratio of respondents who chose supermarket as their main channel to purchase organic vegetables was greater for the "low" OVT category; i.e. the higher the OVT, the greater the possibility of farmers market, specialized stores and home deliveries to be chosen as the main channel to source organic vegetables.

Table 3: Categorization by the level of trust

	OVT				GNT			
	Germany		Japan		Germany		Japan	
	n	%	n	%	n	%	n	%
high	347	34.7	478	31.9	297	29.7	428	28.5
medium	334	33.4	471	31.4	445	44.5	679	45.3
low	319	31.9	551	36.7	258	25.8	393	26.2
n	1000	100.0	1500	100.0	1000	100.0	1500	100.0

Table 4: Relationship between the level of trust and the attitude/ buying behavior of organic vegetables (Chi-squared test)

		OVT		GNT	
		Germany	Japan	Germany	Japan
Ratio of organic vegetables consumed in a month		**	**	**	**
Frequency of purchasing organic vegetables		**	**	**	**
Benefits of organic vegetables	Environmental protection	**	**	**	**
	Health improvement	**	**	**	**
	Safe to eat	**	**	**	**
	Tasty	**	**	**	**
Most important channel to purchase organic vegetables		**	**	-	-

** significant at P<0.01, * significant at P<0.05, - not significant.

Table 5: The most important channel to purchase organic vegetables by OVT category

	Germany						Japan					
	low		medium		high		low		medium		high	
	n	%	n	%	n	%	n	%	n	%	n	%
Supermarkets	79	77	158	71	166	55	119	71	130	61	153	59
Specialized stores	10	10	23	10	49	16	20	12	19	9	49	13
Home deliveries	0	0	4	2	7	2	16	10	36	17	47	14
Farmers market	10	10	23	10	49	16	3	2	7	3	13	3
Other	4	4	16	7	31	10	10	6	20	9	41	10
Total	103	100	224	100	302	100	168	100	212	100	303	100

Discussion

This study attempted to explore a possible explanation for the slow growth in organic food market in Japan, by employing the theory of "trust." The study found that the average level of trust was higher for the German samples when trust was measured by the question items related to organic vegetables (OVT), while the Japanese samples exhibited higher trust when it was measured by the scales of "general trust" (GNT). Both scales of trust was confirmed to be related to the attitude and buying behaviour of organic vegetables including purchase frequency, consumption intensity, and benefit evaluation. OVT was also associated with the consumer's choice of the channel by which they shop for organic vegetables, but contrary to what trust theory tells us, higher level of trust was associated with lower importance of supermarket. This was probably due to the fact that people with higher level of trust tend to consume more organic vegetables and therefore direct and specialized channel was more convenient channel to shop than supermarket with possibly decreased search cost. Though further research is needed to exclude the effect of consumption intensity to reveal the pure effect of trust on channel choice, this study clearly showed that the ability to trust is one of the important factors that explains the consumers' buying behaviours of organic vegetables.

Acknowledgements

I thank Dr. Toru Sakai, Dr. Shigenaga Yokota, Dr. Meike Janssen, and Dr. Ulrich Hamm for their kind advice to this questionnaire survey. This work was supported by MEXT KAKENHI Grant Number 22730337.

References

- Padel, S. and P. Midmore (2005): The development of the European market for organic products: insights from a Delphi study. *British Food Journal*, 107(8), 626-647.
- Yamagishi, T. (1999): Anshin Syakai kara Shinrai Syakai E, *Chuokoron-shinsya*.
- Zucker, L. (1986): Production of Trust: Institutional Sources of Economic Structure, 1840 to 1920, *Research in Organizational Behaviour*, 8, 53-111.

