

## ASSOCIATION BETWEEN SOCIO DEMOGRAPHIC PROFILE WITH FACTORS CONTRIBUTE IN THE INTENTION ACCEPTANCE OF TRACEABILITY AMONG PRODUCER AND WHOLESALER IN MALAYSIA

Juliana Ritonga Saipul Jannah  
Department of Agribusiness and Bio-resources Economic,  
Faculty of Agriculture, Universiti Putra Malaysia (UPM),  
43400 Serdang, Selangor, Malaysia  
Email: Juliana@gmail.com

Norsida Man  
Department of Agribusiness and Bio-resources Economic, Faculty of Agriculture,  
Universiti Putra Malaysia (UPM), 43400 Serdang, Selangor, Malaysia  
Department of Agriculture Technology, Faculty of Agriculture,  
Universiti Putra Malaysia (UPM), 43400 Serdang, Selangor, Malaysia  
Corresponding author: norupi45@yahoo.com

Ismail Abd Latif  
Department of Agribusiness and Bio-resources Economic,  
Faculty of Agriculture, Universiti Putra Malaysia (UPM),  
43400 Serdang, Selangor, Malaysia

Melissa Alina Yusoff  
Department of Agribusiness and Bio-resources Economic,  
Faculty of Agriculture, Universiti Putra Malaysia (UPM),  
43400 Serdang, Selangor, Malaysia

---

### ABSTRACT

Food safety is worldwide important and has great attention for the agenda which has been highlighted in Agro-food Policy of Malaysia. The food safety and quality is an increasingly important issue in this country. Various factors such as improper use of pesticides, physical contamination, microbiological contamination, heavy metal contamination and environment have caused many severe food related problems including diseases in the country. The present study has shown that the problem of food safety and quality is somewhat a matter of permanent concern. To provide safe food products to consumers, traceability is one of the important criteria to be emphasized. Traceability has become one of the important agenda because it contributes in producing safe food. In addition, it plays an important role because it enhances the transparency and safety of the food system (Opara and Mazaud, 2001). The aim of this paper is to clarify the relationship between socio demographic factors with awareness and knowledge of traceability. A total of 200 respondents were selected randomly from fresh producers and wholesalers. Descriptive and chi-square analysis were selected by using SPSS Version 21. The result shows that most of the respondents were male, Malay and aged between 41 to 50 years. Most of the respondents have secondary school for their level of education. Age and education level have significant relationship with factors contribute in the intention acceptance of traceability among producer in Malaysia. While income has significant relationship with factors contribute in the intention acceptance of traceability among wholesalers in Malaysia. Traceability requires Research and Development (R&D) attention and acceptance of traceability among producer and wholesaler for the encouragement and enhancement of the production of fresh products. Additionally, government department especially Department of Agriculture need to take action in term of ranchers' demographic study such as age, education level and income which will enable producers and wholesalers to increase level of intention acceptance of traceability among producers and wholesalers. Thus, this farming could enhance and improve the intention of the producers and wholesalers for the development of traceability.

Key words: Agriculture, Food Safety, Fruit, Vegetable

---

### Introduction

Food safety one of the main agenda that been focusing in National Agro-Food Policy (2011-2020) (MOA, 2011). The reason for including food safety is one of the main agenda in National Agro-Food Policy because it became a crucial to produce safe food for the consumers. It also because of the increasing number of food safety problems occurring worldwide in recent years and heightened consumers' food safety awareness and has caused public distrust of the increasingly complex and globalized food production and trading system (Setboonsang et. al., 2009).

Agriculture is an important sector in Malaysia. Development in agriculture contributes significantly to the economic development of the country. As agriculture included Agro-Food sector, the government has formulated a special policy for this industry to ensure the industry remains significant as one of the important sectors in the economy. The government aims to transform the occurrence of the food industry to be more challenging and competitive, a more modern and dynamic with the objective to ensure food supply. In addition, agriculture is the third engine growth in Malaysia and it contributes 7.3% of Gross Domestic Income in 2010 and it is been expected that agriculture will contribute RM 49.1 billion in GDI of Malaysia (MOA, 2010). Agriculture also been taken seriously by the Malaysian Government as they made a policy for agriculture started with National Agriculture Policy and Agro-Food Policy.

Food traceability has become an important concept, system and practices especially in Europe, America, Australia, Canada, Japan and Korea as they made a special policy and regulation in practicing of traceability system. Traceability has become one of the important agenda because it contributes in producing safe food. Food safety has been worldwide attention and it also become an importance thing in Malaysia and one of the main agenda which is also been highlighted in Agro-food Policy. The demand from the consumer to have a verifiable evidence for food a product which is refers to the traceability.

Traceability as define by Codex Alimentarius Commission (CAC) as: "the ability to follow the movement of a food through specified stage (s) of production, processing and distribution". In order to practice the traceability, records keeping through food supply chain from farm to customers are needed to be gathered in one system. Producer, processor, marketer, distributor and consumer can access all the available data in order to make sure the products are safe to consume. The main objective of traceability is the identification and isolation of any potential contamination source that will enable the return and withdrawal of such products from the market (Peter, Arpad, and Marta, 2011). Problems are relatively rare, but when they occur, heath and lives are at stake as well as the livelihoods of the companies industries, and employees (Welt and McEntire, 2011).

The globalization of world trade, the North American Free Trade Agreement (NAFTA), food safety in the fresh produce industry, and political and commercial realities have put the traceability regulation on the radar screen (Fonsah, 2006). Canada (Fonsah, 2006) and Australia among the develop country that implementing the fresh produce traceability. However, in Malaysia, there is Food Safety Legislation, but there is no proper guideline, standard and policy regarding traceability in food produces focusing on fresh produce. The implementers (producers, wholesaler, transporter, exporter and distributor) may be not aware and have no knowledge about traceability and its benefit. In order to implement the traceability, study on level of awareness and knowledge among the implementers are need to be identified. This information can be used wisely by the government or any parties who involved in this project and they can plan what should be done to make sure the implementation of traceability in fresh produce success. The general objective of this study is to identify the awareness and knowledge of producers, wholesalers and exporters in traceability of fresh produces. The specific objectives for this study are to describe selected demographic characteristic of the farmers, wholesaler and exporter and to clarify the relationship between socio demographic factors with awareness and knowledge of traceability.

## Material And Method

The methodology used data collection procedures, sampling frame and technique, source of data and sample of questionnaire. This study focuses on two (2) groups of respondents which are producer and wholesaler of fresh fruits and vegetables products in Malaysia. These two groups were given attention because they are the major players in the chain of traceability. A total of 100 respondents for each category selected randomly for this study. Therefore our grand total of this study were 200 respondents. The study was conducted at Johor, Pahang and Johor states of Malaysia. These locations were chosen due to the high production of fresh fruits and vegetables. The statistical tools used for analysing data are descriptive analysis and chi-square analysis.

## Result And Discussion

### Profile Of Fresh Producers

The table 1 shows the demographic profile of fresh producers. The result shows that most of the respondents were males (97 respondents, 97.0 %) as compared to females (3 respondents, 3.0 %). Malaysia's ethnically diverse population of about 28.3 million consists of three major ethnicities: Malay, Chinese and Indian as well as other citizens. Table 4.1 shows that the majority of the fresh producers were Malays (83 respondents, 83 %), followed by Chinese (17 respondents, 17 %), Indian and others (0 respondent, 0 %).

Most of respondents were aged 41 to 50 years (27 respondents, 27 %), followed by aged between 51 to 60 years (22 respondent, 22 %) while 21.0 respondents (21 %) of the fresh producers was between 31 to 40 years. The smaller groups of age belonged to below 30 years (13, 13.0 %) and over 60 years (17, 17 %). The education levels of respondents were categorized into six categories. Respondents who has attend the secondary school are the most which is 54 % (54 respondents) followed by respondents who had Degree (14 respondents, 14 %), respondent who attend primary school and had Diploma equally numbered (11 respondents, 11 % each) and 6 % (6 respondents) who had certificate and 4 % (4 respondents) has no formal education.

The study found that majority of the respondents (86 respondents, 86.0 %) earned income less than RM100,000 per year, while 10 of the respondents (10.0 %) earned income between RM100,000 to RM500,000 per year. Each income between RM500, 000 to RM1, 000,000 and RM 1,000,000 above equally had 2 respondents for each category.

Table 1: Demographic Profile of Fresh Vegetable Producers

Variables	Frequency (n=100)	%age (%)
<b>Gender</b>		
Male	97	97.0
Female	3	3.0
<b>Race</b>		
Malay	83	83.0
Chinese	17	17.0
Indian	0	0
Other	0	0
<b>Age (Years Old)</b>		
<30	13	13.0
31-40	21	21.0
41-50	27	27.0
51-60	22	22.0
>60	17	17.0
<b>Education Level</b>		
No formal education	4	4.0
Primary school	11	11.0
Secondary School	54	54.0
Certificate	6	6.0
Diploma	11	11.0
Degree	14	14.0
<b>Income per year</b>		
<100,000	86	86.0
100,000-500,000	10	10.0
500,001-1,000,000	2	2.0
>1,000,001	2	2.0
Mean		
<b>Years in Farming</b>		
1-10	57	57.0
11-20	25	25.0
21-30	10	10.0
31-40	5	5.0
>41	3	3.0
<b>Status of Involvement in Farming</b>		
Full Time	82	82.0
Part time	18	18.0

(Source: Survey, 2014)

Furthermore, the experience of respondents in farming also determines his/her implementation behaviour. Out of the total of 100 respondents, 57.0 % (57 respondents) of them had 1 to 10 years of experience in farming while smaller %age of respondents (3 respondents, 3.0 %) had experience of 41 years in farming and 5 respondents (5.0 %) had 31 to 40 years' experience. Another 25.0 % or 25 of the respondents involved in farming for 11 to 20 years and the balance of 10.0 % (10.0 respondents) involved in farming for 21 to 30 years.

In terms of status involvement, it had been identified that 82.0 % or 82 respondents are fully involved in this industry and the other 18.0 % or 18 respondents involve in this industry as a part timer.

### Profile Of Fresh Wholesaler

The table 2 represents the demographic and socio-economic profile of fresh wholesalers; include gender, race, age, education level, status of involvement, income per year and year of experience in agriculture. The data provides a general view of the situation of the samples conducted for this study.

From Table 2 shows the demographic profile of fresh wholesalers. The result shows that most of the respondents were males (89 respondents, 89.0 %) as compared to females (11 respondents, 11.0 %). Malaysia's ethnically consists of three major ethnicities: Malay, Chinese and Indian as well as other citizens. Table 4.1 (b) shows that the majority of the fresh vegetable wholesalers were Chinese (94 respondents, 94.0 %), followed by Malays (4 respondents, 4.0 %), Indian and others (1 respondents, 1.0 % each). As such, most of the survey respondents were aged between 41 to 50 years (41 respondents, 41.0 %), followed by aged between 51 to 60 years (30 respondents, 30.0 %) while 15.0 % (15 respondents) of the fresh vegetable wholesalers was between 31 to 40 years and respondent over 60 and less 30 years old each with 9 % (9 respondents) and 5 % (5 respondents).

The education levels among respondents were categorized into six categories. Most of the respondents were secondary school graduates (61 respondents, 61.0 %), 22.0 % (22 respondents) had completed primary school, 12.0 % (12 respondents) had

graduated with tertiary education and only 5 respondents (5.0 %) had never been to school. In this study, it also found that majority of the fresh producers (52 respondents, 52.0 %) earned income less than RM100,000 per year, while 31 of the respondents (31.0 %) earned income between RM100,000 to RM500,000 per year. Respondents with income between RM500,000 to RM1,000,000 only 17 respondents (17.0 %) and there is no respondent have income more than RM 1,000,000 above a year.

Table 2: Demographic Profile of Fresh Wholesalers

Variables	Frequency (n=100)	(%)
<b>Gender</b>		
Male	89	89.0
Female	11	11.0
<b>Race</b>		
Malay	4	4.0
Chinese	94	94.0
Indian	1	1.0
Other	1	1.0
<b>Age(Years Old)</b>		
<30	5	5.0
31-40	15	15.0
41-50	41	41.0
51-60	30	30.0
>60	9	9.0
<b>Education Level</b>		
No formal education	5	5.0
Primary school	22	22.0
Secondary School	61	61.0
Certificate	2	2.0
Diploma	7	7.0
Degree	3	3.0
<b>Income per year</b>		
<100,000	52	52.0
100,000-500,000	31	31.0
500,001-1,000,000	17	17.0
>1,000,001	0	0.0
<b>Years in Farming</b>		
1-10	16	16.0
11-20	30	30.0
21-30	32	32.0
31-40	19	19.0
>41	3	3.0
<b>Status of involvement in business</b>		
Full Time	94	94.0
Part time	6	6.0

(Source:Survey, 2014)

Based from the study, there are 32 respondents (32.0 %) are involved in this area for about 21 to 30 years, followed by 30 respondents have experienced 11 to 20 years in wholesale business. Another 19.0 % (19 respondents) involved at least 31 to 40 years, 16.0 % (16 respondents) had 1 to 10 years of experienced and only 3.0 % (3 respondents) has involved more than 41 years in this wholesale business. In terms of status involvement, it had been identified that 94.0 % (94 respondents) are fully involved in this industry and the other 6.0 % (6 respondents) involve in this industry as a part timer.

Table 3 shows the summary of Chi square test result between producers' demographic profile with perception level towards traceability. The results indicate that age and education level has significant relationship with perception level towards traceability. Significant interactions were found between the age and education level of producers and perception level towards traceability; young and elder ranchers have different perspective regarding the traceability. Moreover, there is no significant relationship between experience and income of producers with perception level toward traceability.

Table 3: Testing Relationship between Socio Demographic Factors and Perception Level towards Traceability (Producer)

Variable	r <sup>2</sup>	p	Result
Age	-0.301	0.002*	Reject H <sub>0</sub>
Education Level	0.267	0.007*	Reject H <sub>0</sub>
Experience in Agriculture	-0.120	0.234	Failed to reject H <sub>0</sub>
Income	0.154	0.126	Failed to reject H <sub>0</sub>

\*\*significant at the  $\alpha < 0.001$ ; \*significance at the  $\alpha < 0.05$

Table 4 shows the summary of Chi square test result between wholesalers' demographic profile with perception level towards traceability. The results indicate that income has significant relationship with perception level towards traceability. Significant interactions were found between the income of wholesalers and perception level towards traceability; wholesaler has higher income have different perception level with lowest income wholesalers regarding the traceability. Moreover, there is a no significant relationship between age, education level and experience of wholesalers with perception level toward traceability.

Table 4: Testing Relationship between Socio Demographic Factors and Perception Level towards Traceability (Wholesaler)

Variable	r <sup>2</sup>	p	Result
Age	- 0.171	0.090	Failed to reject H <sub>0</sub>
Education Level	0.123	0.222	Failed to reject H <sub>0</sub>
Experience in Agriculture	- 0.042	0.680	Failed to reject H <sub>0</sub>
Income	0.235	0.019**	Reject H <sub>0</sub>

\*\*significant at the  $\alpha < 0.001$ ; \*significance at the  $\alpha < 0.05$

### Conclusion And Recommendation

Food safety is worldwide important and has great attention for the agenda which has been highlighted in Agro-food Policy of Malaysia. The food safety and quality is an increasingly important issue in this country. The result shows that most of the respondents were male, Malay and aged between 41 to 50 years. Most of the respondents have secondary school for their level of education. Age and education level have significant relationship with factors contribute in the intention acceptance of traceability among producer in Malaysia. While income has significant relationship with factors contribute in the intention acceptance of traceability among wholesalers in Malaysia. Traceability requires Research and Development (R&D) attention and acceptance of traceability among producer and wholesaler for the encouragement and enhancement of the production of fresh products. Additionally, government department especially Department of Agriculture need to take action in term of ranchers' demographic study such as age, education level and income which will enable producers and wholesalers to increase level of intention acceptance of traceability among producers and wholesalers. Thus, this farming could enhance and improve the intention of the producers and wholesalers for the development of traceability.

### References

- Fonsah, E.G. (2006). "Traceability: Formulation and Implementation of an Economic Efficient System in the Fruit and Vegetable Industry," American Agricultural Economics Association Publication, Choices 21(4):243-248.
- Ministry of Agriculture and Agro-Based Industry (2011). Agrofood statistics 2010. Putrajaya. Retrieved from:[http://www.moa.gov.my/c/document\\_library/get\\_file?uuid=1cb6c877-bada-410a-9dbd-12da85cbc8e0&groupId=43204](http://www.moa.gov.my/c/document_library/get_file?uuid=1cb6c877-bada-410a-9dbd-12da85cbc8e0&groupId=43204)
- Peter, L., Arpad, F. and Marta, N. (2011). "Present-day situation of food safety and traceability," in Proceedings of the 2nd International Conference on Agricultural and Animal Science, pp. 40–44, Singapore.
- Welt, B., and Blanchfield, R., (2012). Food Traceability, Scientific Information Bulletin, International Union of Food Science Technology (IUFoST).