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# Determinants of purchase intention and attitudes toward organic food in Myanmar: The role of sociodemographic characteristics

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*Abstract*— Organic farming and organic food market have been growing around the world for many years. In Myanmar, organic food is in the early stage for production and marketing. The study aims to analyse the determinants of the consumers' purchase intention and attitudes toward organic food and the role of sociodemographic characteristics. The data was collected from 80 consumers of Nay Pyi Taw Region using structured questionnaires. The findings indicated that 38 percent of the respondents perceived that they were fully aware of organic food, organic agriculture and their differences with conventional food and agriculture. Among the respondents, 61 percent were willing to pay premium price for organic food. The results indicated that age and household size of the respondents were not significantly associated with the respondents' awareness level of organic food, purchase intention, the premium price the respondents were willing to pay, expected consumption frequency in the future and checking before buying while these variables were positively associated with the education level of the respondents. These variables were also significantly different according to the respondents' occupation types and residential places. Regression analysis predicted that the respondents' income, ratio of food expense and income, education level, awareness level of organic food and the premium price they are willing to pay have significant impacts on their purchase intention in the future. The findings from this study contributed the importance of the respondents' sociodemographic characteristics on purchase intention and attitudes toward organic food for further research.

***Keywords***— **Organic food, Sociodemographic characteristics, Purchase intention, Attitudes.**

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## INTRODUCTION

In the traditional practices, the agricultural systems around the world were nearly natural and organic when the global population was low. As the world population grows rapidly, there has been an increase demand for food production to feed the increasing population. Along with the industrial development, this increased demand for food production has led the green revolution of agricultural systems to adopt the use of chemical fertilizers and pesticides to maximize the production. In recent years, as a reaction to the detrimental effects on health and environments resulting from the excessive use of chemicals in agriculture, people became interested in chemical free organic agriculture (Jamison and Perkins, 2010). In the research of Lockie et al. (2004), people usually regard organic food to be safer and environmentally friendly than conventional food. Due to the increasing awareness, the demand and consumption of organic food products have been increasing in recent years. Organic Food Global Market Report 2021stated that global organic food market is expected to grow from $201.77 billion in 2020 to $221.37 billion in 2021 at a compound annual growth rate (CAGR) of 9.7% and it is expected to reach $380.84 billion in 2025 at a CAGR of 14.5%.

Agriculture has been the backbone of Myanmar economy and the government has been focusing on increasing agricultural productivity for the agriculture development as a way to achieve the goals of increasing national economy and reducing poverty. Along with the technical intervention and mechanization, there has been an increased use of chemical fertilizers and pesticides to

increase agricultural productivity. The emerging trend of global organic food market has also influenced the Myanmar food market in the past few years. However, the organic food market in Myanmar is only at the introduction stage and in need of publicizing and increasing awareness for commercialization. In their research, Padel and Foster (2005) stated that regular organic food consumers are usually educated and from higher social class. This situation is also applicable in Myanmar as the organic food are usually perceived as the luxury items for elite social class and higher income people. Vagneron et al. (2018) stated that organic and chemical-free agriculture are close to unknown in Myanmar while the demand for safe food products which remains untouched seems to exist.

Regarding with organic food consumption, several studies have shown that the consumers' sociodemographic characteristics have significant relation and influence. However, Wier et al. (2008) analyzed several literatures on organic food consumption and stated that there have been diverse findings from numerous researchers which stated that sociodemographic characteristics did or did not have any significant relation or influence on consumers' organic food consumption. Some researchers stated that factors such as age, income, education, awareness, household size, urbanization, occupation were related to organic food consumption while others found the opposite. Therefore, this study aims to empirically analyse the relation and influence of the respondents' several sociodemographic characteristics on their purchase intention and attitudes towards organic food consumption in Nay Pyi Taw region, Myanmar. The main interested sociodemographic characteristics of the respondents included the respondents' age, education level, income, ratio of food expense and income, household size, residential place, and occupation type.

Bravo et al. (2013) stated that the consumer's awareness and their willingness to pay are the two important factors for the successful campaign of new product introduction. Therefore, this study aims to analyse the respondents' awareness level of organic food and the premium price they were willing to pay. In addition, the study also analysed for expected consumption rate in the future, and the rate at which they check for organic before buying food to support the respondents' purchase intention and attitudes towards organic food consumption. Figure-1 shows the conceptual framework for the study.

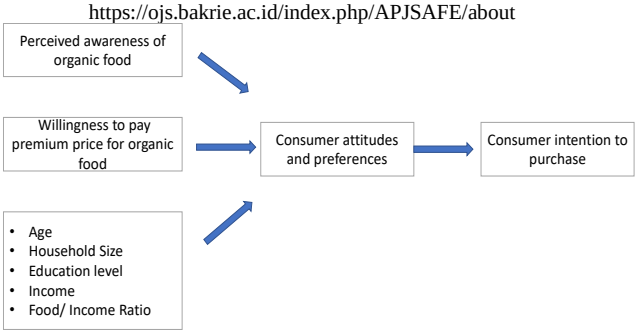


Figure-1 Conceptual framework of the study

**Objectives of the study**

- Identify the correlation between respondents' sociodemographic characteristics, their purchase intention, and attitudes towards organic food consumption.
- Identify the factors affecting the respondents' purchase intention towards organic food consumption.

## MATERIALS AND METHODS

**Study areas and sample selection of primary data collection**

The study was conducted in Nay Pyi Taw Region in October 2021. The respondents were from Zeyarthiri, Ottarathiri and Pobbathiri Townships in Nay Pyi Taw, Myanmar. The potential respondents were the main household members managing food at the households to obtain accurate data on food consumption. The research was based on convenience sampling and the potential participants were self-selected with a voluntary way.

**Method of data collection, data analysis and ethical considerations**

For primary data collection, the research team visited the households, explained the purpose of the study, and solicited their voluntary participation. If the respondent agreed to involve in the study, the interview was conducted using the structured questionnaire. In the first section, the questionnaire asked the sociodemographic information of the respondents. It was followed by the set of questions that asked the respondents' attitudes and purchase intentions for organic food. The responses for the respondents' awareness level, their attitudes and purchase intentions for organic food were coded on five-point Likert scales. The main interested sociodemographic characteristics of the respondents in this study included the respondents' age, education level, awareness level of organic food, income, food expense and income ratio, household size, residential place, and occupation type. The respondents' attitudes of organic food consumption in this study were their awareness level of organic food, purchase intentions, their expected consumption rate in the future and the rate at which they check for organic before buying food.

After collecting the data, it was coded first before being loaded into EXCEL and SPSS statistics software (var. 27). Analysis of the data, the interpretation and the writing were carried out at the Department of Agricultural Economics of the Yezin Agricultural University. Descriptive analyses (group-level) were used to generate the sample characteristics. For the respondents' occupation type and residential place which contains nominal data, Kruskal Wallis H test was conducted to analyse whether there were significances between their occupation, residential place and the attitudes and purchase intention toward organic food consumption. For the respondents' sociodemographic characteristics which contains continuous data, the study employed Pearson's Correlation test to measure the statistical relationship between the respondents' sociodemographic characteristics, their attitudes and purchase intention toward organic food consumption. The study also employed Liner Regression to numerically predict the strength of the relationship between the respondents' sociodemographic characteristics, their attitudes and purchase intention toward organic food consumption. Several ethical issues were considered throughout the study such as the respondents' voluntary participation, questions posed to be non-personal nature, confidentiality to be achieved by assigning a code to protect the respondents' identity and the data to be accumulated to a group level.

## RESULTS AND DISCUSSIONS

### Demographic characteristics of respondents

The survey was conducted from 80 sample respondents in Nay Pyi Taw Council. Among the respondents interviewed, the average age was 45.94 years with a standard deviation of 12.59. The household's average monthly income was 340,963 and ranging from 80,000 to 850,000 Myanmar Kyats. The average of food expense and income ratio was 67.71. The highest food expense and income ratio was 212.50 percent and the lowest was 20 percent. The household size was ranging from 1 to 10 and the average was 4 persons. Among the respondent households, 65 percent of the respondents reside in urban areas as their response however the study areas are typically characterized as the pre-urban where the governmental institutions are nearby. The female ratio among the respondents was found to be 95.00 percent as the survey was intended to interview the person who mostly manage the food in the households (Table 1).

The respondents were also categorized according to their education levels and types of occupation. The education level was divided into four. These includes primary school level where schooling usually takes 5 years, secondary school level where schooling usually takes up to 9 years, high school level where schooling usually takes up to 11 years and graduate level where the respondents have completed 11 years of schooling and received education from the university. The graduate level respondents represent nearly 12.50 percent of the total respondent while the primary level respondents were 35 percent. Based on the categories of occupation, 40 percent were farmers, 28.75 percent worked in private sector, 11.25 percent were employed by the public sector while the rest 20 percent were doing housework (Table 1).

Table-1 Sociodemographic characteristics of the respondents

| Items | | n | % |
|---|---|---|---|
| Residential place | Urban | 52 | 65.00 |
| | Rural | 28 | 35.00 |
| Gender | Female | 76 | 95.00 |
| | Male | 4 | 5.00 |
| Education | Primary | 28 | 35.00 |
| | Secondary | 26 | 32.50 |
| | High School | 16 | 20.00 |
| | Graduate | 10 | 12.50 |
| Occupation | Public sector | 9 | 11.25 |
| | Private sector | 23 | 28.75 |
| | Farmer | 32 | 40.00 |
| | Housework | 16 | 20.00 |

| Variables | Mean | SD | Range |
|---|---|---|---|
| Age (year.) | 45.94 | 12.59 | 18 – 75 |
| Household size (no.) | 4.31 | 1.60 | 1 – 10 |
| Monthly income (MMK) | 340963 | 187178 | 80,000 – 850,000 |
| Food expense and income ratio (%) | 67.71 | 39.72 | 20 - 212.50 |

Note: Exchange Rate: USD to MMK- 1770, Date 21/12/21)

### Respondents' perceived awareness level of organic food

Figure-2 shows the respondents' awareness level of organic food. These awareness levels were measured upon whether the respondents felt they were fully aware of organic food, organic agriculture and their differences with conventional food and agriculture. Among the respondents, 13 percent of the respondents stated that they were fully aware and understood about organic food, organic agriculture and their differences with conventional food and agriculture. In contrast, 21 percent of the respondents stated that they were aware and have adequate understanding of organic food and organic agriculture. In addition, 29 percent of the respondents stated that they were aware of very few aspects of organic food and organic agriculture. However, 19 percent of the respondents stated that they did not

understand organic food and organic agriculture while the rest 19 percent of the respondents stated that they were never aware of organic food and organic agriculture.

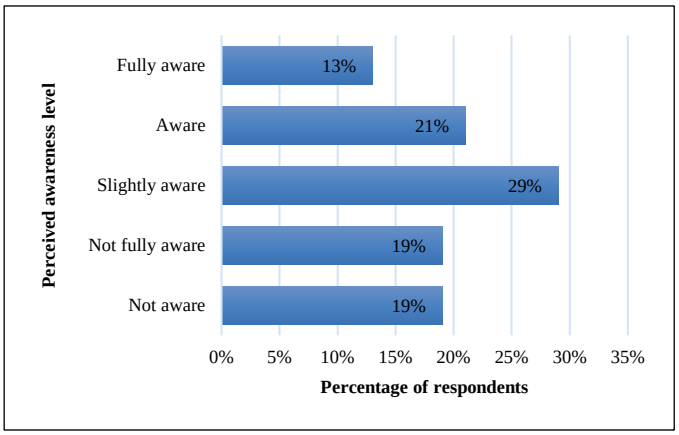


Figure-2 Respondents' perceived awareness level of organic food

**The premium price the respondents were willing to pay for organic food**

Figure-3 shows the premium prices the respondents were willing to pay for organic food which were measured in percentage added to the conventional food price. Among the respondents, 39 percent of the respondents stated that they did not want to pay any premium price for organic food. Therefore, a total of 61 percent of the respondent were willing to pay premium price for organic food. Among them, 15 percent of the respondents were willing to pay the premium price of 50 percent higher than the conventional food price while 18 percent of the respondents were willing to pay 31 to 50 percent higher, 15 percent of the respondents were willing to pay 10 to 30 percent higher and 14 percent of the respondents were willing to pay less than 10 percent higher than the conventional food price for organic food (Figure-3).

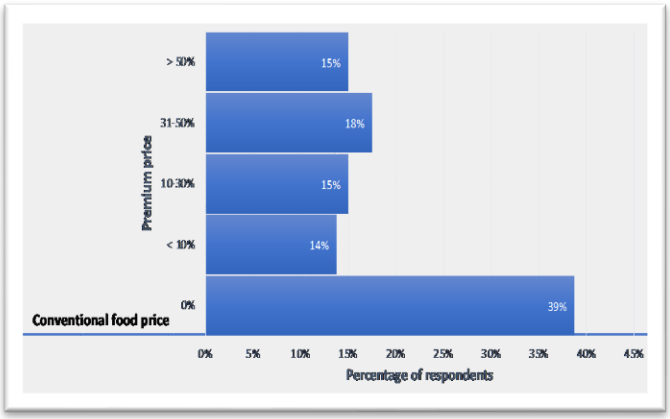


Figure-3 The premium price the respondents were willing to pay for organic food

**Relations between sociodemographic characteristics, purchase intention and attitudes toward organic food**

A Cronbach's alpha value greater than 0.6 is generally accepted (Flynn et al. 1994). The Cronbach's alpha value of the data from this study is 0.745 which means that the internal reliability is consistent and acceptable for further analysis.

After the reliability test, Pearson's Correlation analysis was conducted for the first objective of the study. As shown in Table-2, the respondents' household size and age were not significantly related to the respondents' awareness level of organic food, their purchase intention, expected consumption frequency in the future and checking before buying. These findings are however contradicted with the findings from Thompson and Kidwell (1998) which stated that the tendency to buy organic foods was positively correlated to household size in United States and the findings from Wier et al. (2008) which stated that age has significant influences on the propensity to buy organic foods in Great Britain.

Statistically significant positive relation was found between the income and education of the respondents' and their perceived awareness level of organic food ($p < 0.05$). This result is consistent with the findings of Briz and Ward (2009) which stated that consumers' awareness about organic food is directly influenced by the respondents' level of education and income. Food expense and income ratio of the respondents was positively related to their purchase intention of organic food and expected consumption rate in the future while it was negatively related to their awareness level of organic food ($p < 0.05$). The education levels of the respondents' have significant positive relations with the respondents' purchase intentions of organic food, expected consumption frequency in the future and checking before buying ($p < 0.05$). In addition, the respondents' awareness level, their purchase intention of organic food, expected consumption frequency in the future and checking before buying were significantly and directly related to each other ($p < 0.05$) Table-2.

Table-2 Relations between sociodemographic characteristics, attitudes, and purchase intention of organic food (Pearson's correlation test)

| | HH Size | Age | Income | Food expense/Income Ratio | Education | Perceived awareness | Purchase intentions | Check before purchasing |
|---|---|---|---|---|---|---|---|---|
| **Age** | -.033 | | | | | | | |
| **Income** | .241* | .168 | | | | | | |
| **Food expense/Income Ratio** | .139 | -.165 | -.621** | | | | | |
| **Education** | -.189 | -.233* | .312* | -.247* | | | | |
| **Perceived awareness** | -.107 | .096 | .380** | -.282* | .525** | | | |
| **Purchase intentions** | .054 | -.178 | -.103 | .307** | .225* | .294** | | |
| **Check before purchasing** | .110 | .002 | .040 | .174 | .342** | .241* | .481** | |
| **Future eating rate** | .161 | -.068 | .043 | .270* | .380** | .340** | .640** | .519** |

Note: * and ** denote correlation is significant at 0.05 and 0.01 levels respectively (2-tailed).

**Differences in purchase intention and attitudes toward organic food based on occupation**

A Kruskal-Wallis H test showed that there was a statistically significant difference between the respondents' expected consumption rate in the future by their different occupation types (H (3) = 20.39, p = 0.000) (Table-3). Statistically significant difference was also found between the premium prices the respondents were willing to pay for organic by their different occupation types (H (3) = 26.37, p = 0.000). In addition, the respondents' purchase intentions of organic food (H (3) = 11.38, p = 0.010), perceived awareness level of organic food (H (3) = 11.00, p = 0.012), and checking before buying the products food (H (3) = 15.43, p = 0.000) were significantly different with regards to their different occupation types (Table-3).

Table-3 Purchase intention and attitudes toward organic food based on occupation types (Kruskal Wallis H test)

| Variables | Occupation type | n | Mean Rank | df | H-value | p-value |
|---|---|---|---|---|---|---|
| Expected consumption rate in the future | Government Staff | 9 | 26.28 | 3 | 20.39 | 0.000*** |
| | Private | 23 | 34.41 | | | |
| | Farmer | 32 | 53.06 | | | |
| | Housework | 16 | 39.64 | | | |
| Purchase intention of organic food | Government Staff | 9 | 34.28 | 3 | 11.38 | 0.010* |
| | Private | 23 | 38.93 | | | |
| | Farmer | 32 | 49.25 | | | |
| | Housework | 16 | 28.75 | | | |
| The premium price willing to pay | Government Staff | 9 | 34.28 | 3 | 26.37 | 0.000*** |
| | Private | 23 | 38.93 | | | |
| | Farmer | 32 | 49.25 | | | |
| | Housework | 16 | 28.75 | | | |
| Perceived awareness level of organic food | Government Staff | 9 | 24.83 | 3 | 11.00 | 0.012* |
| | Private | 23 | 34.22 | | | |
| | Farmer | 32 | 46.30 | | | |
| | Housework | 16 | 46.75 | | | |
| Checking before buying the products | Government Staff | 9 | 41.44 | 3 | 15.43 | 0.000*** |
| | Private | 23 | 30.54 | | | |
| | Farmer | 32 | 51.34 | | | |
| | Housework | 16 | 32.59 | | | |

Note: * and ** denote correlation is significant at 0.05 and 0.01 levels respectively (2-tailed).

**Differences in purchase intention and attitudes toward organic food based on residence**

A Kruskal-Wallis H test showed that statistically significant differences were found between the premium prices the respondents were willing to pay for organic (H (3) = 15.85, p = 0.001), purchase intention of organic food (H (3) = 8.74, p = 0.003) and perceived awareness level of organic food (H (3) = 5.27, p = 0.022) based on their different residential place (Table-4). However, their expected consumption rate in the future and checking before buying the product attitudes were not significantly different regarding with their residential place.

Table-4 Purchase intention and attitudes toward organic food based on residential place (Kruskal Wallis H test)

| Variables | Residence | n | Mean Rank | df | H-value | p-value |
|---|---|---|---|---|---|---|
| Expected consumption rate in the future | Rural | 28 | 41.36 | 3 | 0.073 | 0.787 |
| | Urban | 52 | 40.04 | | | |
| Purchase intention of organic food | Rural | 28 | 35.38 | 3 | 8.74 | 0.003** |
| | Urban | 52 | 50.00 | | | |
| The premium price willing to pay | Rural | 28 | 35.38 | 3 | 15.85 | 0.001** |
| | Urban | 52 | 50.00 | | | |
| Awareness level of organic food | Rural | 28 | 33.18 | 3 | 5.27 | 0.022* |
| | Urban | 52 | 44.44 | | | |
| Checking before buying the products | Rural | 28 | 45.16 | 3 | 2.05 | 0.153 |
| | Urban | 52 | 37.99 | | | |

Note: * and ** denote correlation is significant at 0.05 and 0.01 levels respectively (2-tailed).

**Factors affecting on consumer purchase intentions of organic food**

To predict the effects of sociodemographic characteristics on the respondents' purchase intention of organic food, the simple linear regression was conducted. The main interested area of this study was the respondents' purchase intention of organic food. Therefore, as shown in Table-5, the dependent variable was the respondents' purchase intention for organic food. The independent variables were the same variables calculated in the previous Pearson's Correlation test in Section 3.4. Preliminary analyses were performed to ensure there were no violation of the assumption of normality and linearity. The results showed that R square value was 0.623 and the overall regression was statistically significant (F (7,72) =14.694), p value < 0.001.

According to the regression results, the respondent's education and income had significant positive influence on the consumer purchase intention of organic food (p value < 0.05). This finding is consistent with the findings from Di Vita et al. (2019) and Shashi et al. (2015) which stated that both higher income and higher education levels were associated with increased consumer purchase intention of organic food products. The ratio of food and income, the awareness level of organic food and the premium prices the respondents were willing to pay were significant positive affecting factors on the respondents' purchase intentions of organic food (p value < 0.05) (Table-5).

Table-5 The effects of sociodemographic characteristics and attitudes on the purchase intention of organic food (Regression analysis)

| R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|
| .790 | .623 | .581 | .436 |

| | Un-Std. B | Coefficients Std. Error | Std. Coefficients Beta | t | Sig. |
|---|---|---|---|---|---|
| (Constant) | .060 | .368 | | .162 | .008 |
| Household size | -.041 | .037 | -.096 | -1.092 | .279 |
| Age | .002 | .004 | .041 | .497 | .621 |
| Income | 9.081E-7 | .000 | .252 | 2.135 | .036 |
| Awareness level | .253 | .094 | .250 | 2.696 | .009 |
| Ratio of food expense/Income | .008 | .002 | .447 | 4.184 | <.001 |
| Education | .147 | .064 | .224 | 2.298 | .025 |
| The premium price willing to pay | .293 | .040 | .658 | 7.324 | <.001 |

## CONCLUSIONS

This study aimed to analyse the determinants of purchase intention and attitudes toward organic food in Myanmar and the role of sociodemographic characteristics. The findings from this study will be valuable for further analysis to identify the potentials of organic food market in Myanmar to promote the organic agriculture.

The findings indicated that 38 percent of the respondents did not agree with the fact that they were fully aware of the organic food and organic agriculture and their differences with conventional food and agriculture. Among the respondents, 39 percent stated that they did not want to pay any premium price for organic food while 61 percent of the respondent were willing to pay premium for organic food. The respondents' household size and age were not significantly related to the respondents' awareness level of organic food, purchase intentions of organic food, expected consumption frequency in the future and checking before buying. The respondents' income and education have significant positive relation and influence on the respondents' purchase intentions of organic food. The respondents' awareness level of organic food, consumer purchase intentions, expected consumption frequency in the future and checking before buying were significantly different according to their different occupation types. The respondents' awareness level of organic food, and consumer purchase intentions of organic food were also varied according to their different residential places.

Therefore, it can be concluded that the respondents' socioeconomic characteristics played significant roles in their attitudes and propensity to consume organic food. Future research should be done to identify the demand and potentials of organic food to promote organic farming regarding the different consumer groups based on socioeconomic factors. According to the low awareness of consumers, the organic food in Myanmar is not yet well- known to the public. Therefore, policy makers should pay attention to promoting the public awareness through different media programs. Public awareness program of organic food should be specific different income and educational level of consumer groups because these are the key factors affecting the consumer purchase intention. Organic farming and organic food market should be endorsed by demand driven approach that will come from empirical based information of the premium price the consumers are willing to pay and purchase intention of future studies in Myanmar.

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