

Research on Consumer Willingness to Purchase Organic Food Products

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Abstract

This paper presents research on consumer's behavior and willingness to purchase organic food products by analyzing literature previously conducted by other researchers and conducting instigators own research using online survey with the sample size of 208 participants. The main objective of this study is to examine consumer's perceptions towards organic food products that may affect their willingness to purchase (WTP) organic foods. The Pearson correlation test and the regression analysis are conducted to validate or disprove the relationship between the variables. The findings have shown that human health, environmental consciousness, perceived cost, labeling and certification of organic food products influence consumer preferences to purchase organic food products. The study validates that the health-consciousness is the key factor affecting consumer purchasing decisions of organic foods and accounts to 46% of the variability in WTP organic food products. This suggests that consumers are aware about health and nutrition benefits of organically grown produce which in turn impacts their purchasing decision. Several limitations are suggested for future study.

Keywords: Organic foods, health consciousness, willingness to purchase.

1. Introduction

Organic food is one of the fastest growing segments of the retail food market. The total sales of organic products in the United States increased by as much as 83% between 2007 and 2012 (Cohrssen & Miller, 2016). Currently, according to Pilar *et al.* (2018) study, organic food is grown on 50.9 million hectares globally and as noted by Pino *et al.* (2012), the market continues to expand worldwide at the average rate of 20% annually. According to Song & Mansori (2016), in 2014 global sales for organic food products reached \$72 billion in US currency, and 43.7 million hectares of the farmland became certified organic.

Numerous factors have contributed to the progression of organic food products and organic farming including food safety, environmental factors, health concerns, and animal welfare consideration (Cohrssen and Miller, 2016; Madan, 2017; Pilar 2018; Pino *et al.*, 2012; Türk *et al.*, 2016). Organic farming provides an alternative by restricting the usage of synthetic pesticide and chemicals (Klonsky, 2012; Smith, 2012; Song & Mansori, 2012).

Organic foods have a number of advantages in terms of wellbeing and absence of harmful chemicals that are widely used in conventional production (Bo Won Suh *et al.*, 2015). Extensive research conducted over a number of years has proven that organic foods not only tastes better than conventional foods, but it is better for heathland is safe for the environment as a whole, as it does not contain substances such as genetically modified organisms, pesticides or hormones (Bo Won Suh *et al.*, 2015; Cohrssen & Miller, 2016; Madan, 2017; Pilar 2018; Pino *et al.*, 2012; Türk *et al.*, 2016).

Organic certification is another factor that influences consumer demand for organic foods. The U.S. regulatory scheme on organic food production is based on the Organic Food Production Act, 1990 (OFPA), which delegates to the USDA the task of regulating organic production, handling and labeling. The OFPA was designed to establish national standards and prevent consumer confusion (Chenglin, 2011). Therefore, organic food production is a legally regulated by the U. S. Department of Agriculture (USDA) and includes the control and certification process from the farm to the market (Cohrssen & Miller, 2016; Klonsky, 2012; Madan, 2017).

Market itself means – customer, around whom all marketing strategies are formulated and implemented. In ever changing marketing environment, there is a growing concern or awareness among marketers to go for a careful study of the consumer behavior around which all marketing activities are made (Türk & Erciş, 2017).

In order to meet competition at the marketplace, the marketing managers are using various methods to add value to the final product which will reach the hands of the consumers. Because of this basic belief that the customer is the center around which the business revolves, marketers can take into account that different groups of consumers pursue different values. Their advertisement approach should be communicated appropriately to increase the effectiveness of the policies directed at encouraging sustainable consumption patterns and promote public confidence in the safety standards of organic farming (Pino *et al.*, 2012). Thus, investigating consumer behavior towards organic foods purchase is one of the inspirational areas of marketing research. Therefore, it is important to find out the factors that motivate consumers to purchase certain organic goods and what will affect their willingness to pay for the product.

The purpose of this study is to examine the consumer's perceptions of the organic food products that may affect their buying intentions. In our study, we will examine how environment consciousness, health consciousness, organic foods certification and cost factors affect consumer willingness to purchase organic food products.

The following research questions were generated to help to accommodate the study goals and to understand the association between four independent variables and one dependent variable.

1. What are the factors that influence consumer's decision to purchase organic foods?
2. To study the relationship of environmental concern and willingness to buy organic foods.
3. To study the relationship of health conscious on willingness to purchase organic foods.
4. Does premium price (cost) affect consumers decision to purchase organic foods?
5. The role of labeling on consumer's food choices.

2. Literature Review

2.1. Factors Towards Purchasing Organic Food Products

In this modern day's sex roles are evolving, therefore, understanding what makes people in general buy and what makes customer in particular buy is a vital part of business success (Türk & Erciş, 2017). For instance, gender shows different consumption patterns and perceptions of consumption situations. It is consistent throughout lifetime, influencing customer values and preferences. (Istudor & Pelau, 2013). Women are becoming more professional and independent, and men are becoming more sensitive and caring; but men and women can differ in terms of traits, information processing, decision styles, and consumption patterns (Istudor & Pelau, 2013).

In addition to gender, many researchers are in agreement that central motives towards purchasing organic foods include harmless to human health, safer than conventionally produced foods, responsibility of family and well-being (Bo Won Suh *et al.*, 2015; Pino *et al.*, 2012). Besides, several studies have concluded that the main drive for the increase in the consumers demand of organic food products include nutritional benefits, taste, health-conscious, production of high quality, food safety, environmental protection and animal welfare (Bo Won Suh *et al.*, 2015; Cohrssen & Miller, 2016; Madan, 2017; Pilar 2018; Pino *et al.*, 2012; Türk *et al.*, 2016).

While, Cohrssen and Miller (2016) highlighted that some consumers were not willing to purchase organic foods due to lack of some special value and doubts about product guarantees in the eyes of the consumers. Still, many studies confirmed that there is segment of consumers who are health conscious and believe that organic food products are healthier and more nutritious than the conventional counterparts (Bo Won Suh *et al.*, 2015; Madan, 2017). For example, Suh, Eves & Lumbers (2015) with a reference to other studies have shown that Greek consumers believed that consuming organic food products positively influenced and benefitted their health. Similarly, Malaysian consumers believed that organic food is better in terms of quality and freshness, and perceived good value contribution for their health (Song & Mansori, 2016).

Besides, Madan (2017) argues that consumers want more than just nourishment from their food as they are more educated about health and wellness than ever before. While the food is a key factor towards good health, many believe that maintaining an active lifestyle and mental well-being are important factors that contribute to emotional and physical wellbeing. Consumers agree that good health is a holistic combination of good food choices and healthy lifestyle habits (Madan, 2017). Hence, previous study confirmed the existence of positive relationship between safety and perceived value of health benefits, because consumers believe that food without chemicals and genetically modified organisms contributes to their health value (Chung & Biing-Hwan, 2007; Song & Mansori, 2016). Therefore, studies confirmed that health considerations have been identified as the most significant factor when selecting organic food products (Bo Won Suh *et al.*, 2015; Pilař *et al.*, 2018).

Additionally, to the above studies, the research analysis by Vecchio *et al.* (2016) showed that not only consumers appeared to be very sensitive to the health aspect of their everyday choices; trust was another factor to consider. Likewise, Song & Mansori (2016) confirms importance of labeling and certification as important product attribute factors that positively influenced consumer's perspective of organic foods.

Consumers have to rely on the information provided by trusted authorities to evaluate such foods as these foods have credence attribute and consumers cannot evaluate them on their own. Therefore, knowledge possessed by consumers plays a vital role in influencing consumer attitude and making a purchase decision (Vecchio *et al.*, 2016). Thus, as assured by Suh, Eves, & Lumbers (2015), trust has been found to have a significant influence with regards to food safety concerns and consumer food selection.

To develop consumer's trust, the USDA established the National Organic Program (NOP) to develop national standards for organically produced agricultural products and established an organic certification program as required by the Organic Foods Production Act (OFPA) passed by Congress in 1990 (Cohrssen & Miller, 2016; Klonsky, 2012). Organic agriculture, which is governed by strict government standards, requires that products bearing the organic label are produced without the use of toxic and persistent pesticides and synthetic nitrogen fertilizers, antibiotics, synthetic hormones, genetic engineering or other excluded practices, sewage sludge, or irradiation. According to studies, organic certification guidelines are well laid out and easier for understanding organic food certification (Klonsky, 2012; Madan, 2017).

However, Cohrssen and Miller (2016) argues that national standard does not improve food safety, quality or nutrition. The authors imply that the USDA allows the use of the word organic only for marketing purposes, there is no guarantee for its safety, quality or nutrition that the labeling of organic food does not benefit consumers but is sells organic products. Whereas USDA data indicates that organic foods have fewer pesticide residues than conventionally grown produce, the amounts for both types of produce are within the level for safe consumption. Hence, it's unclear if the pesticides used in organic farming are safer than the synthetic pesticides used in conventional farming, such conclusions forces for more future studies to be made in this topic (Klonsky, 2012).

Even though there were discrepancies among researchers, the result of the further studies done by Kareklas *et al.* (2014) suggests that consumer purchases of organic food products may be influenced by egoistic altruistic considerations. Meaning that purchasing organic food products not only beneficial for consumers but positively contributes to the environment and society. In addition, in their research, Smith and Brower (2012) highlighted that the use of more environmentally friendly products will help managing the increasing concern about the health of the planet, social responsibility and the ethical treatment of animal. Hence, emphasizing positive impact which organic foods consumption has on well-being and its conrition to cleaner environment will be more effective and persuasive (Kareklas *et al.*, 2014). Therefore, such an outcome is not only attractive to consumers but is benefiting advertisers. As the end result, it will lead to consumer's willingness to purchase organic food products.

In likelihood to the Kareklas *et al.* (2014) study, the research completed by Smith and Brower (2012) disclosed that millennials are attracted to the products which are environmentally friendly. Previous studies indicated that 47% of millennials would pay more for environmentally friendly products because they care for the environment. Products that are less harmful to the environment have been identified in several studies as desirable to consumers, even to the point of consumers being willing to pay more for these products. Studies indicate that the usage of more environmentally friendly products will help managing the increasing concern about the health consciousness of the planet. (Smith & Brower, 2012; Chung & Biing-Hwan, 2007). Thus, there is a huge potential for the future growth of the organic foods market.

In addition to the above factors which influences consumer purchasing decision, willingness-to-pay for particular food attributes is linked to an observation that consumers make trade-offs for improved attributes associated with consuming particular products (Bo Won Suh *et al.*, 2015). It reflects an observation that individual preferences are unique. Given that yields are generally lower for organic production than for functional and conventional production, consumer willingness-to-pay a price premium for organic products is an important determinant of organic farm profitability and long-term financial sustainability. The magnitude of the price mark-up is also important because it helps in assessing the value consumers place on particular product attributes. A price premium on organic produce can signal differences in product attributes and characteristics and, therefore, is an important search attribute for consumers behavior towards organic foods (Vecchio *et al.*, 2016).

3. Research Methodology

In the above discussion, the author conducted a literature review based on numerous research studies. Many studies concluded that the demand for organic food products is increasing due to the various factors, including nutritional benefits, health-conscious, production of high quality, food safety, environmental protection and animal welfare (Bo Won Suh *et al.*, 2015; Cohrssen & Miller, 2016; Madan, 2017; Pilar 2018; Pino *et al.*, 2012; Türk *et al.*, 2016).

The goal of this study was to examine the factors that affect consumer's willingness to purchase organic food products. Factors such as environmental conscious, health conscious, perceived cost, labels and certification were observed and tested. A descriptive statistics analysis and a Pearson correlation test were conducted to check the association between the variables. After that, the author run a regression analysis to compare the model fit, to further analyze the data, and to understand the relationship between the variables.

3.1. Research Framework and Hypothesis Development

Based on the above stated objectives, the research framework was developed. The research framework explained the relationship of the independent variables and the dependent variable which are shown in Figure 3.1.1. The independent variables included environmental concern, health concern, perceived cost, labels and certification, whereas willingness to purchase organic food products was a dependent variable. The similar model was adopted from previous study conducted by Song & Mansori (2016) and designed to accommodate current research. Hence forth, the following hypotheses were formulated to help to examine a relationship between four independent variables and one dependent variable, a consumer WTP organic food product.

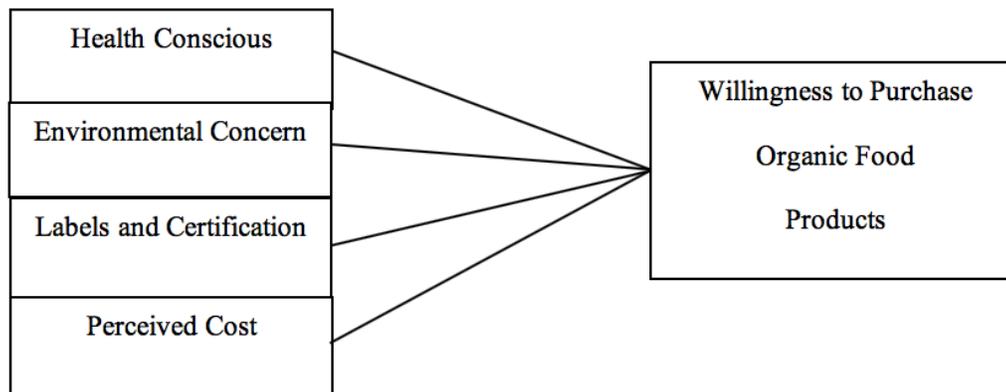
Hypothesis 1: Positive perception towards environment consciousness will have positive effect on consumer willingness to purchase organic food products.

Hypothesis 2: Positive perception towards health consciousness will have positive effect on consumer willingness to purchase organic food products.

Hypothesis 3: Perceived costs about organic foods will have negative effect on consumer willingness to purchase organic food products.

Hypothesis 4: Labeling and certification on organic food products will have positive effect on consumer willingness to purchase organic food products.

Figure 3.1.1: Theoretical Framework Adapted from Song & Mansori (2016).



3.2. Questionnaire

To test the hypotheses and to meet the goal of this study, a qualitative approach approved by Wells College Institutional Review Board (IRB) was conducted. The primary data was collected through distribution of an online questionnaire using Goggle Forms. The survey instrument was designed to ask potential participants a total of twenty-four questions and was emailed to students and faculty of Wells College of Aurora, to Cornell University of Ithaca, and was posted on Facebook, from March 13, 2019 to March 22, 2019. The questions were assessed by a Likert scale, a measurement scale that consisted of five response categories (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree) with the closed ended questions. A Likert scale was used to indicate respondent's satisfaction level of consuming organic food products (See Appendix Section 8, Sub-Section 8.2.).

3.3. Data Analysis

Following the data coding, the data analysis was conducted by using Microsoft Excel statistical tools for understanding of the respondent's data. Further, Karl Pearson correlation coefficient was used as a measure of reliability and to determine an overall consistency and correlation of the scale (Singhal, 2017). In addition to correlation analysis (See Appendix Section 8, Sub-Section 8.1), a regression analysis, ANOVA, was performed to determine the model fit. Then, an R-squared was examined, a statistical measurement to understand the goodness of fit, or how close the data points were positioned to the fitted regression line. Based on the R-squared value we understand the percentage of the variance in the dependent variable that is explained by the independent variable (Table 4.2.1.).

Next, to determine the overall significance level of the model, a p-value was used to identify whether the relationship was statistically significant. The alpha (α) value of 0.05 was used to determine the level of significance. A p-value was used in conjunction with the t-value for better interpretation of the hypothesis. The t-test compared the data mean to what was expected under the null hypothesis. A t-value of zero indicated that the sample results exactly equaled the null hypothesis and the null hypothesis remained true. The larger the t-value, the smaller the p-value, and the greater the evidence against the null hypothesis. When the p-value is very low ($<$ alpha level of 0.05, the probability of making a wrong decision), the null hypothesis is rejected. The smaller the p-value the greater the evidence against the null hypothesis. Hence, the evidence in the sample data was strong enough to accept the alternative hypothesis.

4. Research results

4.1. Demographic Characteristics

Table 4.1.1 presents the demographic profile of our respondents. Due to missing values for some respondents, certain questions may not sum up to 100 percent. The summary of descriptive statistics analysis model was adopted from Singhal (2017) and was modified to fit the current study. In the total sample size of 208 participants, 172 were female (83%); 33 participants were male (16%), and 3 individuals identified themselves as other (1%). According to the research, most of the respondents fall in the range from 18-34 years of old, which consists of 83 (40%) participants; the second highest group range from 35-47 years old and consists of 57 (28%) participants; the third group range of 48-66 years old involved 49 (24%) participants; the fourth group ranged from 67+ years old with 11(5%) participants and lastly, participants who were under 18 years old held the lower proportion of 7 (3%) participants. More than half of the respondent fall under “married” category and calculated to 107 participants or 52%; 71 participants or 34% identified themselves as “single”; 14 divorced participants or 7%; 12 participants or 6% identified themselves as other and finally, 2 participants or 1% fall under widow category.

Table 4.1.1. Sample Profile of Respondents (n=208). Adopted from Singhal (2017)

| Demographic Factor | Factor Category | No. of Respondents | Percentage (%) |
|--------------------|--------------------|--------------------|----------------|
| Gender | Female | 172 | 83 |
| | Male | 33 | 16 |
| | Other | 3 | 1 |
| Age | Under 18 years old | 7 | 3 |
| | 18-34 years old | 83 | 40 |
| | 35-47 years old | 57 | 28 |
| | 48-66 years old | 49 | 24 |
| | 67+ years old | 11 | 5 |
| Marital Status | Single | 71 | 35 |
| | Married | 107 | 52 |
| | Divorced | 14 | 7 |
| | Widow | 2 | 1 |
| | Other | 12 | 6 |

The summary of the results shows that respondents in this sample primary identify themselves as female, are young adults and married. According to U.S. Census Bureau, in July 1, 2018 United States population estimated to 327. 2 million people, representing a 6 percent increase in population since April 1, 2010. According to the 2010 Census, the United States population was 308.7 million (Table 4.1.2.). Female persons accounted to 50.8 percent of the total population while 49.2 percent were male. Correspondingly, based on the Census 2010 fact finder, married female accounted to 60.3 million (48.3 percent) of the population, while married male accounted to 61.7 million (52.2 percent), with the median age of a population equating to 37.2 years.

Table 4.1.2. United States 2010 Census Population and Median Age

| 2010 Census Population (million) | Gender | Population Percentage (%) | Median Age | Married (%) |
|----------------------------------|--------|---------------------------|------------|-------------|
| 156,964,212 | Female | 50.8 | 38.5 | 48.3 |
| 151,781,326 | Male | 49.2 | 35.8 | 52.2 |
| 308,745,538 | (x) | 100 | 37.2 | (x) |

Sources: U.S. Census Bureau, General Demographic Characteristics, 2010 Census, DP-1, 2006-2010 American Community Survey, DP 02.

Therefore, in comparison to the U.S. national data, based on our results we can see how well our sample reflects the population and how valid and reliable our conclusions will be. So, the current research sample size is biased towards female population, as 83% of respondents are female, with less men (16%) than women participating in the survey. The difference between the two is known as observed effect. We observe that that the gender effect is to reduce the proportion by 67% for men relative to women.

In addition to demographic results, the summary of regression analysis results of each respondents score is representing how well participants responses matched each factor are shown in Appendix Section 8, Sub-Section 8.2.

4.1.1. WTP & Environment Conscious

Conferring to the Table 4.2.1, the value of R-squared of 0.13 shows that the environmental consciousness independent variable accounts for 13% of the variability in WTP. The t-value=1.50 indicates a positive difference between sample data and null hypothesis; a p-value of 1.20133E-07 is less than α -value (the significance level of 0.05), thus environment conscious is statistically highly significant. Therefore, based on available evidence, we reject the null hypothesis and accept the alternative hypothesis. We can conclude that alternative hypothesis 1: "Positive perception towards environment consciousness will have positive effect on consumers behavior to purchase organic food products" is true at the 95% confidence level.

4.1.2. WTP & Health Conscious

According to the Table 4.2.1., the value of R-squared is 0.458 which means that independent variable health consciousness accounts for 46% of the variability in willingness to purchase. Health conscious has t-value=5.129; p-value=3.57542E-29 indicating that the p-value is less than the α -value (the significance level of 0.05), thus the variable health conscious is statistically highly significant. Since the p-value is very low, we reject the null hypothesis and accept alternative hypothesis. Therefore, based on the results we can conclude that there is a positive relationship between health conscious and willingness to purchase organic food products. Hence, the alternative hypothesis 2, "Positive perception towards health consciousness will have positive effect on consumers behavior to purchase organic food products" is true at the 95% confidence level.

4.1.3. WTP & Perceived Expensiveness

Table 4.2.1. indicates that perceived expensiveness accounts for 15% of the variability in willingness to purchase. Perceived expensiveness t-value=20.6506; with $p < 0.001$ p-value=9.07173E-09 is less than the alpha (the significance level) value of 0.05, therefore perceived expensiveness is statistically highly significant. Based on the research results we reject the null hypothesis and accept alternative hypothesis 3. Therefore, the hypothesis "Perceived expensiveness about organic food products will have negative effect on consumer intention to purchase organic food products" is accepted at the 95% confidence level. Thus, we can conclude that there is a positive relationship between WTP, a dependent variable and perceived expensiveness, an independent variable.

4.1.4. WTP & Labels and Certification

In Table 4.2.1., R-squared is 0.11 which shows that Labels and Certification accounts for 11% of the variability in willingness to buy. Labels and Certification t-value=7.7048; with $p < 0.001$, p-value=1.10508E-06 indicating that the p-value is less than the α -value of 0.05, which shows that the labels and certification, the independent variable is statistically highly significant. Thus, we reject the null hypothesis and accept the alternative hypothesis 4, "Labeling and certification on organic food products will have positive effect on consumer intention to purchase organic food products" is true at the 95% confidence level. Hence, we can conclude that there is a positive relationship between WTP, a dependent variable and labels & certification, an independent variable.

4.2. Results Discussion

This study provides an understanding of consumer willingness to purchase organic food products. Various methods were used to test the variables. At first, descriptive statistics were done on demographic profile of respondents to better understand the relationship on WTP according to gender, age and marital status. From the outcome of the analysis it was found that majority of the respondents consisted of young married adults between the age of 18-34 with female respondents dominating (83%) the sample size. There may be several reasons for why our population is skewed toward female. Firstly, we can assume that the large gap between male and female in the sample size can be related to the gender gap at Wells College community, which mainly consisting of female students, faculty and staff. Secondly, the possibility that the Cornell University employees skewed towards female as well, or that female are more sensitive to the subject matter of organic foods. And thirdly, even though the survey circulated on Facebook platform to both gender, female was more prone to take the survey. Thus, we can make an assumption that female is more considerate and attentive in the subject matter, in particularly, organic food products. Following demographic characteristics, reliability test was carried out to determine consistency of measurement for each variable.

Based on the results, all four variables were found to have a positive relationship with willingness to purchase organic food products, with R-square value range between 0-1 (Table 4.2.1).

In addition to the above outcomes, four hypotheses were tested using regression analysis. The results of the regression analysis performed have shown that environment consciousness, health consciousness, perceived expensiveness, labeling and certification, are statistically significant with the p-value less than the alpha value of 0.001 (The results are reported in Table 4.2.1.). Hence, our study concluded that the alternative hypotheses for the above variables were true at the 95% confidence level and that there was a positive relationship between WTP, and four independent variables identified above. While demographic characteristics have shown a p-value greater than the alpha value of 0.05, concluding that the variable are not significantly significant at the 95% confidence level.

Table 4.2.1 Regression Results and the Probability Value by Variables

| WTP & | R-Square | T-Stat | P-Value | Results |
|----------------|----------|---------|-----------|--|
| Environment | 0.127 | 1.5000 | 1.201E-07 | Statistically Highly Significant p<0.001 |
| Health | 0.458 | 5.1288 | 3.575E-29 | Statistically Highly Significant p<0.001 |
| Expensiveness | 0.148 | 20.6506 | 9.072E-09 | Statistically Highly Significant p<0.001 |
| Label Trust | 0.109 | 7.7048 | 1.105E-06 | Statistically Highly Significant p<0.001 |
| Gender | 0.001 | 22.6977 | 0.6535991 | Not Statistically Significant p>0.05 |
| Age | 0.018 | 16.0929 | 0.0526298 | Not Statistically Significant p>0.05 |
| Marital Status | 0.001 | 34.5137 | 0.6554908 | Not Statistically Significant p>0.05 |

Statistically Significant at $\alpha=0.05$; Statistically Highly Significant at $\alpha=0.001$.

Moreover, results of the current study have shown that health conscious variable is affecting the most WTP and has a strong positive relationship with willingness to purchase organic food products. The health-conscious model (See Table 4.2.1.) has higher R-squared value than other tested variables and accounts to 46% of the variability in WTP denoting a better fit for the data.

This current study results were consistent with previous studies and confirms that health consciousness is the most significant factor that affecting consumer’s willingness to purchase organic food products (Bo Won Suh *et al.*, 2015; Pilař *et al.*, 2018). This implies that consumers are aware about health and nutrition benefits of organically grown produce which influences their purchase decision.

Conferring to Table 4.2.1., perceived expensiveness ($R^2=15\%$) were the next significant factors, following health consciousness, that affects consumer decisions and willingness to purchase organic food products. The results are in line with the study conducted by Song & Mansori (2016), who have found that organic foods are generally higher priced compared to conventional foods. They confirm that the price is a significant factor that causes a barrier to consumer when purchasing organic food products. However, consumers are willing to pay higher price if they receive superior benefits from the organic foods such higher nutritional value, long term health benefits, ecology, protection of animal welfare, and ease of purchase due to availability of organic food products (Song & Mansori, 2016). Thus, based on the research, marketers can gain a significant benefit when promoting organic food products based on the attributes that have positive effect on consumer willingness to purchase organic food product and label it accordingly to consumer desires.

Next, environmental concern has found to have a positive relationship on willingness to purchase organic food products with R-squared of 13% variability in WTP. It is observed that environmental consciousness is another factor that that encourages consumers to purchase organic foods. With this in mind, organic food marketers can benefit by focusing on such audience which in return will increase the demand for organic food products and will be beneficial to the economy overall.

Labels and certification followed environmental consciousness results with R-squared variability of 11% in WTP. The result was consistent with previous study by Song & Mansori (2016) and verifies the importance of labeling and certification as a factor that positively influences consumer’s willingness to purchase organic foods. Therefore, our study confirms that knowledge about organic food labeling possessed by consumers plays a vital role in making a purchasing decision. Besides, stricter laws can be implemented to monitor organic producers to ensure farmers compliance with organic food guidelines established by USDA. Thus, it is important for marketers of organic food products to keep these objectives and values in mind when producing organic food products, considering price, ensuring its availability, and designing their advertisements to encourage the purchase of organic food products which in turn will benefits the economy.

Finally, as mentioned above, gender, age, and marital status have insignificant p-value, which requires further investigation to gain better insight into the type relationship between given set of variables. From a marketing standpoint, based on research findings variable such as gender, age and marital status are not a good indicator of WTP for organic food products. However, the fact that younger and married adults are likely to purchase more of organic food products suggests that targeting and advertising to this group may be affective. So, promoting organic food products could be targeted to this audience. From the labeling model, organic labeling and pro-organic messages about the importance of the organic standards could increase this factor further. Our study suggests, that health variable can have the most powerful advertisement effect when promoting organic food products by identifying the benefits of organically grown produce to the consumer.

5. Conclusion

In our study, we combined and reviewed available literature to provide an understanding of consumer preferences toward willingness to purchase organically grown foods and conducted research analysis to show the relationship between variables. The findings of this research are consistent with many previous studies (Bo Won Suh *et al.*, 2015; Pilařet *et al.*, 2018). Notably, health consciousness is shown to be the most important factor influencing consumer willingness to purchase organic food products. Besides health consciousness, the findings of the current research have shown that consumer preference for organic food products is based on a general perception that organic has more desirable characteristics than conventionally grown alternatives. Human health, along with several other product characteristics such as environmental consciousness, cost, labeling and certification of organic food products influences consumer preferences to purchase organic food products. Thus, consumer willingness to purchase organic food products reflect not only a confirmation that individuals make trade-offs between attributes associated with consuming alternative products, but also a confirmation that individual consumer preferences are unique.

Some limitations to the current study were discovered: missing factors in demographic characteristics such as income level and education level could enhance the results of the study and their effect on consumer willingness to purchase organic food products. Also, variables such as quality and variety of organic foods may be observed and compared to conventional foods, a greater sample size could bring more accurate results. Lastly, the survey questions could be constructed differently, since a consumer-based approach to understanding organic agriculture is important not only in its own right, but also in terms of responses to changes in market dynamics. Most studies on consumer knowledge about organic agriculture reflect a conceptual belief that is true and justified and tend to use research methods that rely on correctness to answers to survey questions. Correct or incorrect responses imply knowledge and awareness about organic food products. Though, his notion of consumer knowledge and awareness has some limitations and does not capture some important aspects of knowledge. Hence, we suggest addressing the limitations stated above for a future research.

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8. Appendix

8.1. Data Analysis: Correlation Matrix

ask that they minimize personal risks. Indicate what risks are associated with participation in this study. What steps will you take to minimize these risks?

The research questions were designed to explore consumer behavior in the marketplace. Do you anticipate that you will incur any personal risks as a result of participating in this study? If so, please describe the nature of these risks and the steps you will take to minimize them. If you do not anticipate any personal risks, please indicate so.

6. Potential Benefits to Participants. What benefits will participants receive for participating? Indicate any potential benefits that participants may receive as a result of participating in this research. Benefits can range from the satisfaction of participating in research, general insight into their own behavior, monetary benefits, or professional networking. In the event that participants will be asked to donate to a charity or organization, indicate how such participation will be asked and how participation in the charitable effort is a separate choice to participate in the study prior to completion of the research. Is it likely that benefits will create an undue influence over some participants?

There will be no potential benefits to participants in participating in this survey questionnaire in this research.

Rev. 8/2015

9. Researcher/Participant Relationship. Will you recruit participants that you already know? Research involving human participants requires that potential participants have the ability to volunteer for a study, to decline to volunteer, and/or to leave a study without undue influence or embarrassment. Please indicate how you plan to recruit participants. Researcher and research assistant involvement in recruitment, the presence of social interactions or group effects, or the withholding of services. Under influence or undue persuasion or undue influence on the part of research team present information from being able to give consent. Describe any existing relationship between researcher and potential research participants (e.g., teacher/student, advisor/advisee, colleague, etc.). If such relationships exist, will they affect the potential participant's ability to volunteer? What steps will you take to recruit and inform?

Recruitment of participants will be done through email and social media. All participants will be informed of the purpose of the study and the risks and benefits of participation. All participants will be informed of their right to withdraw from the study at any time without penalty. All participants will be informed of their right to refuse to participate in the study at any time without penalty.

10. External Funding. Is this study funded by an external agency? Indicate the source and relevant terms of any funding that supports this project.

No, this study is not funded by an external agency.

11. External Researchers and IRB Assurance. Are you collaborating with researchers at other institutions? Provide the name, title, and institutional affiliation for all collaborators from other institutions. Have any approvals for or received approval from the IRB at these institutions?

No, I am not collaborating with researchers outside of Wells College.

Rev. 8/2015

IRB New Project
February 26, 2018

RESEARCH PARTICIPANT CONSENT FORM

You are invited to participate in a research study conducted at Wells College. The investigator of the study is Anne Shickman. Approximately 200 participants will be enrolled in this study. Participation should require about 5-10 minutes of your time. Participation is entirely voluntary; you may withdraw from the study at any time without consequence.

The purpose of the study is to understand the factors that influence consumer behavior in purchasing organic foods and their willingness to purchase. Results of the study will be used for Anne Shickman's Business senior thesis project.

If you decide to participate in the study, you will be asked to fill out an online questionnaire on Google Form. There are no known major risks to your participation in this research study. It may be requested for you to fill out a questionnaire at the time. Some of the questions on the survey may cause mild emotional discomfort. There will be questions regarding purchasing behavior and attitude towards organic food products. Your responses will be anonymous; you may choose to skip the question or exit the questionnaire at any time.

There are no known major benefits to you for your participation, but a potential benefit may be the opportunity to reflect on environmental and health concerns.

Records of information that you provide for the research study and your personally identifying information (i.e. name or other characteristics) will not be shared in any way. It will not be possible to identify you as the person who provided any specific information for the study.

You are encouraged to ask any questions, at any time, that will help you to understand how this study will be performed and/or how it will affect you. You may contact the investigator, Anne Shickman at ashickman@wells.edu or the investigator's faculty advisor, Eileen Ryan at eryan@wells.edu. If you have any questions or concerns about the study or your rights as a study participant, you may contact the Institutional Review Board, Wells College at IRB@wells.edu.

Having read and understood the information provided above, you willingly agree to participate in the study. You may withdraw your consent and discontinue participation without penalty by clicking "Out" at any time.

Yes
No

IRB New Project
February 26, 2018

RESEARCH PARTICIPANT CONSENT FORM

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Having read and understood the information provided above, you willingly agree to participate in the study. You may withdraw your consent and discontinue participation without penalty by clicking "Out" at any time.

Yes
No