

## Urban consumers' choice of optimal and suboptimal products: Organic and Non-Organic Food Choices

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### Abstract

This paper aims to investigate consumer choices among different segments of people when purchasing fresh products and it further explores how visual appeal, price, and information play a role in consumer choice. A quantitative study with an online choice experiment was carried out on a convenience sample of 90 respondents. A chi-square test for independence was used to find if the product choice is dependent upon visual appeal and price, a McNemar Test to find if an information nudge can change a consumers' choice, finally, a linear regression analysis was performed to see how purchase decision varies between the segment groups of age, gender, education, income, and household composition. This study reveals that Sri Lankan consumer preferences for optimal products over sub-optimal products. Further, the price (discount) of fresh produce has an impact on the consumers' choice and consumers can be influenced (nudged) to make certain purchase decisions. Moreover, consumers' purchase decisions of optimal or sub-optimal products are not influenced by certain socio-demographics (gender, age, income, household composition). These findings provide an important insight into the choice of fresh produce among organic produce and offer useful suggestions in designing marketing strategies for that particular product. Further, the study also shows how nudges can be used to make consumers choose better options. This is one of the first studies done in Sri Lanka that looks at consumer choices among different segments of people when purchasing fresh produce. The study has the potential to make an impact in consumer choices in encouraging organic consumption and sets the platform to the broader subject, wastage of fresh produce.

**Keywords:** *Behavioral Economics, Consumer Segments, Chi-Square Test, Nudge, Fresh Produce*

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## **1. Introduction**

Traditional economic models of rational choice predict human behavior based on assumptions that preferences are stable, consistent, known before choices are made, and known with adequate precision to make the process of choosing among alternatives unambiguous. However, some argue that these assumptions of economic rational choice are unrealistic (Ivarola, 2018) as consumers make choices and decisions without those assumptions. The study of behavioral economics which forms a branch of microeconomics investigates how individuals make choices in real life, using insights from human psychology behavioral economists develop predictions about choices people will make, and most of the time these predictions are not in line with the conventional economic model of “rational” consumers (Varian, 2010).

Inspired by some of these insights that behavioral economic studies have shown in other countries, this research looks at how Sri Lankan consumers make choices in different segments when choosing fresh produce. Since fresh fruit and vegetables are often not packaged, they offer an appropriate product to study consumers’ preferences for food with imperfections (Bolos et al., 2019). We modified a study done by de Hooge et al. (2016) in five Northern European countries and tried to replicate certain aspects of it to examine consumer behavior in Sri Lanka. The study investigates how consumer choices based on the products’ visual appeal, discount preferences are influenced by characteristics such as gender, age, level of income, education levels, and household composition of the consumer. The study further examines if additional information provided on a product can “nudge” the consumer towards a certain purchase decision. These findings provide important insights into consumer purchases on visually appealing and unappealing products and what role discounts and information play in the purchase decision. The findings also offer useful suggestions for supermarkets on marking such products and the farmers on the use of organic farming techniques.

### **1.1 Research Problem and Research Objectives**

This research paper focuses on two problems that the Sri Lankan agriculture industry currently faces, the use of pesticides in the production of fresh produce and wastage resulting from consumer choice decisions.

These two areas have been neglected by policy makers, poorly regulated, and given little attention by the public and private sectors. This study aims to understand consumer choices of optimal and sub-optimal purchase of fresh produce amongst respondents of different segments (income, gender, age. etc). The study evaluates the impact of visual appeal, discounts (price factor), and the effect of information (nudge) on the consumers' decision and its link to the socio-demographics mentioned above.

This research intends to open up the topic of food wastage and the use of pesticides to optimize fresh produce and its link to consumer choice. The study looks at consumer preference for optimal-looking products encouraging farmers to use non-organic methods of farming with the excessive use of pesticides and how consumers' choice for optimal produce leaves the blemished products in the shelves increasing wastage of consumable products. We have developed four hypotheses to investigate if visual appeal has an effect on consumers' choice of optimal and sub-optimal products and the change in choice when a discount and a "nudge" are introduced.

## **2. Literature Review**

### ***Conventional Theories of Consumer Behavior***

The studies on consumer buying decisions vary widely, and research on them moves into the domains of Economics, Psychology, Sociology, Marketing, Statistics, etc. The Marshallian model states that the buying decisions followed by the purchase of products and services are the consequences of some economic conscious and rational calculation (Ginghina, 2013). The model states that the only variables that influence consumer buying a good are the price and the fulfilling of needs is ranked according to the marginal utility. However, there are several models like Howard-Sheth model, the Nicosia model, Kotler's cybernetic model which discuss factors other than price which play an important role in the consumers' purchase decision (Ginghina, 2013).

According to previous studies, consumer buying behavior can be classified as having several components: 1. The reason to buy - which is determined by the economic motivation, the price accessibility, the consumption

destination, the buyer's personality, the temper, the state of mind; 2. The buyer's preferences; 3. Purchase intentions indicate future behavior; and 4. The buying habits can be temporal habits (seasonal buying), spatial habits (the average distance covered to purchase the good), and modal habits (the types of selling preferred by buyers, product association during purchase, brand loyalty or presentation form) (Ginghina, 2013). Taking all these factors into consideration, this study focuses on the following two factors that influence consumers' choices: (a) optimal and sub-optimal food choices, and (b) Choice Architecture and Nudges.

### ***Optimal and sub-optimal Food Choices***

Studies conducted in the U.S. have shown that many consumers do not purchase imperfect or blemished food in retail stores due to food safety misconceptions (Bolos et al., 2019). Consumers' propensity to not accept food that visually deviates from the norm because of cosmetic imperfections (sub-optimal appearance) such as being misshapen, off-color, or slightly damaged which also contributes to consumer food waste is high (Bolos et al., 2019; de Hooe et al., 2017). Products not meeting the ideal or optimal appearance are either discarded at the point of purchase or at home. Studies in the U.S. have also shown that consumers are willing to accept fruits that were suboptimal in terms of appearance when they had to choose between optimal fruits that were sprayed with pesticides (Bunn et al., 1990); hence we also see evidence from research that presenting information related to the safety of the food choice can lead to a change in the consumers' purchase decision.

### ***Choice Architecture and Nudges***

Choice architecture is the design of choices, in different ways to affect consumer decision-making; this is not an exclusion of a choice option but to present different choices in a way that the consumer is guided to make a certain decision (Thaler et al., 2012). Over the past few years, there have been many studies that have designed nudges to alter consumer choice. "A nudge, as we will use the term, is any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives." (Thaler & Sunstein, 2008). Supermarkets are the main purchase point for food for many living in urban areas, with the right nudge designed to alter buying

behavior they can influence the types of food the consumers purchase. Supermarkets also have the power to decide what happens to unsold food and how to encourage consumers to buy visually imperfect food to reduce food waste (Bolos et al., 2019).

## 2.1 Hypotheses and Conceptual Framework

In supermarkets we observe along the fresh produce aisle, consumers look for fruits and vegetables that are of good quality or what is commonly referred to be as fresh. (Colour, texture, and smell are some of the characteristics consumers give their attention to). Studies on imperfect or sub-optimal food choices have never been carried out in Sri Lanka. Globally too there is very limited research on consumer preferences for suboptimal products and only a handful of existing studies provide some insights into whether consumers are willing to purchase sub-optimal products in supermarkets (de Hooge et al., 2017). What happens when imperfect or sub-optimal looking fruits and vegetables get presented to a Sri Lankan consumer; Does that produce never get sold or is wasted? Does the consumer need to be enticed with a discount to purchase the sub-optimal /imperfect product? We develop the first two hypotheses to examine the response to these questions.

### *Hypothesis 1:*

*Visually pleasing fruits and vegetables have an impact on consumer's purchase decisions.*

### *Hypothesis 2:*

*The discounted price of the good has an impact on consumers' purchase decision.*

One of the reasons that can be stated for optimal or perfect-looking fruits and vegetables is the use of pesticides to ensure that those products are not eaten or blemished by disease or pests. Bunn et al., (1990) in the United States studied the consumers' willingness to buy imperfect-looking oranges and found that consumers were only willing to purchase fruits that were suboptimal in terms of appearance when the optimal fruits were sprayed with pesticides. In Sri Lanka, a recent study done in Vavuniya District has shown that a percentage of sixty-two farmers used

banned pesticides and 95% of farmers read the instructions given in the label but they did not follow the labeled instructions. Further, the same study highlighted that there were a significant number of increases of kidney diseases, cancers, and liver failures in this study area (Sharaniya et al., 2015). Given this data, we develop the third hypothesis to examine if consumers can be influenced by providing more data to choose the better option (in this case the organic produce).

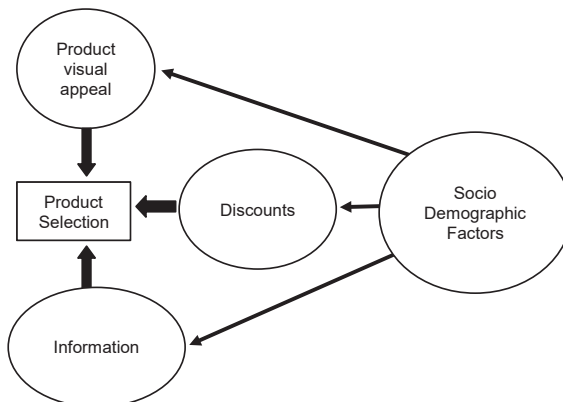
*Hypothesis 3: The consumer can be nudged to make better choices.*

A study done by de Hooge et al. (2016) highlight that consumer choices, discount preferences, and waste behaviors of suboptimal products are influenced by demographics and personality characteristics. Further studies done in India found that socio-demographic factors such as age, education, and income had an impact on the actual buying behavior of organic produce (Singh et al., 2017). To examine this relationship amongst Sri Lankan consumers we develop the final hypothesis.

*Hypothesis 4: Socio-Demographic factors such as gender, age, household composition, education, and income impact consumers' choice.*

For this study price of the good (discount), the visual appearance, the information nudge, and socio-demographic factors are treated as dependent variables and the product choice is treated as the independent variable.

**Figure 1: Conceptual model of the hypothesized interrelationships**



Source: Compiled by authors

### **3. Methodology Data**

This research is undertaken as a quantitative study on consumer choices among different segments of people with a specific focus on fresh produce. Due to the COVID-19 pandemic and travel and other types of restrictions, an online choice experiment survey was employed to investigate the hypotheses that were developed in the planning stage of this research. A sample of 90 respondents was taken to arrive at conclusions to evaluate the hypothesis.

#### **3.1 Study Design**

To measure the survey participants' choice when confronted with optimal (visually pleasing) versus suboptimal (imperfect) foods; a choice design of four pairs of food items was created. The researcher included two products each for vegetables and fruits to ensure that the participant was not partial to just one category of product. For each type of food item, two images were created: an optimal version with a standard appearance (fresh-looking fruits and vegetables) and a suboptimal version showing visual defects like spots and soil damage on the vegetables and discolored fruits. All food items and choice items within each pair (optimal versus suboptimal) were presented in a randomized order to the participants in the online survey. A series of questions were asked on the participants' purchase decisions when prices are the same for both options when a discount is offered, and a scale is presented where the participants can state at which level the discount will sway their decision to purchase. Further, some information is offered on the use of pesticides in producing visually pleasing foods and a question is asked if the added information (the nudge) will change the participants' decision to purchase the organic foods.

#### **3.2 Participants**

The research participants were 90 adults selected from a convenience sample via the distribution of the online choice experiment survey through the Google forms platform. The initial questionnaire required the participants to provide socio-demographic data mainly age, gender, level of education, income, and household composition.

Of the ninety who participated in the study 66 percent were females, and

34 percent were males. Over 86 percent of the sample was below the age of 40, with over 54 percent of them being in the age group of 30-40. The sampling technique used was an online survey. It is noted that younger working adults who have access to online tools such as smartphones and PCs answered the questionnaire. Further, the sample population would have access to technology that enabled internet access to complete the questionnaire online. Given that limitations, the questionnaire was distributed to the researchers' personal and work networks and the respondents were from the Colombo district in Sri Lanka. All participants were in the working-age population with a minimum qualification of ordinary level education, more than 47 percent of the respondents had a postgraduate or higher qualification. In terms of household composition, 21 percent were families with kids; 27 percent were families without kids; 25 percent were extended families (parents, grandparents, and children) and 27 percent were single respondents living alone.

**Table 1: Descriptive Statistics on Demography**

<b>Descriptive Statistics on Demography</b>	
Total Sample	90
<b>Gender</b>	<b>%</b>
Female	66
Male	34
<b>Age</b>	<b>%</b>
Between 20 – 30	32.2
Between 30 – 40	54.4
Between 40 – 50	6.7
Between 50 – 60	6.7
<b>Education Level</b>	<b>%</b>
Advance Level	25.6
Graduate	16.7
Ordinary Level or below	11.0
Postgraduate or above	46.7
<b>Income</b>	<b>%</b>
Below 60,000Rs	14.4
Below 100,000Rs	17.8
Below 150,000Rs	13.3
Below 200,000Rs	18.9
Below 250,000Rs	11.1
Above 250,000	24.4
<b>Household Composition</b>	<b>%</b>
Extended family unit (Grandparents, parents, and children)	25.6
Single (living alone)	26.7
Single family unit (no kids)	26.7
Single family with kids	21.1

*Source: Compiled by authors*



### 3.3 Procedure

Participants completed a 5-minute survey online. A convenience sampling technique was used by the two researchers who initially sent the survey to their friends and family. After the participants took the survey, they were asked to refer two of their friends or co-workers to take the survey if they chose to do so. The personal networks of the researchers were the primary source of reaching the targeted participants. Emails, Facebook messages, and WhatsApp messages were used to administer the online survey. The online survey link was left open for two weeks.

### 3.4 Choice Task

During the choice task, the participants were asked to "Imagine that you're in a supermarket doing your weekly grocery shopping and you come across the below-mentioned produce". The respondents saw two images: one of a suboptimal product and one of the corresponding optimal product. The respondents were asked 'given an identical price which one will they choose to buy' they were presented with three options: the sub-optimal product, the optimal product, and an option to choose "I don't know/none of these'. The product appearance here is treated as an independent variable.

Subsequently, the respondents were asked if their choice would change if one product was offered a discount, and at what percentage of the discount would make them purchase the other optimal product; a linear scale of 10 points were presented ranging from 0% (no discount at all) to 100% (product for free). Thus, the independent variable discount is arrived at; the discount is a representation of the variable price for this survey, as it measures the price at which the consumer is willing to pay for the alternative product.

After all product choices were presented to the respondents, a general information page was displayed with the following statement 'Agricultural Studies have shown that the application of pesticides results in better looking and colorful fruits and vegetables (Non-Organic), however, they can cause long term effects on human health.' After the presentation of this information, the respondents were asked if 'prices were the same' would their choice change, this accounts for the independent variable of

information. Further, one final question was asked: if prices of organic and non-organic food were different, how much more would the respondent be willing to pay for organic food.

The overall suboptimal and optimal choices were calculated as the number of times respondents selected each product. Further, Chi-square tests, McNemar test, and linear regression analysis were carried out to find if the hypotheses formulated in the designing stage of this study were true or not.

## 4. Results

### 4.1 Data Analysis and Discussion

#### *Visual appeal and consumer choice*

To test the first hypotheses ( $H_1$ ), a chi-square test was performed. To perform this test the respondent answers were converted to a weighted frequency table and a crosstabulation function was performed. The results confirmed with a 95% confidence level that the consumers buying behavior is significantly dependent upon the visual appeal of a fruit or vegetable  $X^2 (3, N = 90) = 12.673, p = 0.005$ . Further, 82 percent of the sample chose the optimal looking product as opposed to 18 percent who chose the sub-optimal looking product. For this analysis, all those who answered the survey as they preferred neither the optimal nor the sub-optimal product were excluded.

**Table 1: Cross-tabulation between choices and type of products**

Type of Produce \* Choice Crosstabulation

			Choice		Total
			Optimal Choice	Sub Optimal Choice	
Type of Produce	Tomatos	Count	64	26	90
		Expected Count	73.8	16.2	90.0
		% within Type of Produce	71.1%	28.9%	100.0%
	Carrots	Count	81	9	90
		Expected Count	73.8	16.2	90.0
		% within Type of Produce	90.0%	10.0%	100.0%
	Apples	Count	72	18	90
		Expected Count	73.8	16.2	90.0
		% within Type of Produce	80.0%	20.0%	100.0%
	Oranges	Count	78	12	90
		Expected Count	73.8	16.2	90.0
		% within Type of Produce	86.7%	13.3%	100.0%
Total	Count	295	65	360	
	Expected Count	295.0	65.0	360.0	
	% within Type of Produce	81.9%	18.1%	100.0%	

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.673 <sup>a</sup>	3	.005
Likelihood Ratio	12.533	3	.006
Linear-by-Linear Association	4.078	1	.043
N of Valid Cases	360		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 16.25.

Source: Compiled by authors

The visual appeal of the product represents the constructed preference of the respondents. The conventional theory treats preferences as pre-existing and preferences explain behavior. Behavioral economists instead think of preferences as being constructed by people and they develop or create preferences through the act of choosing and consuming (Varian, 2006). People choose with their eyes. This is an old statement, "what you see is what you get". Visual stimuli at a point of purchase will influence consumers' intention to buy. The results of this hypothesis support the conclusion that the visual factor of the product influences the consumers buying behavior. This result is very much in line with similar studies in other countries which prove the same (de Hooge et al., 2017; Bolos et al., 2019).

### **Price of the good and Consumer Choice**

A Chi-square test was performed for the second hypothesis ( $H_2$ ); The results confirmed with a 95% confidence level that the consumers buying behavior is dependent upon the price of fruit or vegetable  $X^2 (3, N = 90) = 9.552, p = 0.023$ .

**Table 2: Type of products and impact of discount**

**Type of Produce \* Impact of Discount Crosstabulation**

			Impact of Discount		Total
			Change decision due to discount/price	No change	
Type of Produce	Tomatos	Count	51	39	90
		Expected Count	43.8	46.2	90.0
		% within Type of Produce	56.7%	43.3%	100.0%
	Carrots	Count	33	57	90
		Expected Count	43.8	46.2	90.0
		% within Type of Produce	36.7%	63.3%	100.0%
	Apples	Count	50	40	90
		Expected Count	43.8	46.2	90.0
		% within Type of Produce	55.6%	44.4%	100.0%
	Oranges	Count	41	49	90
		Expected Count	43.8	46.2	90.0
		% within Type of Produce	45.6%	54.4%	100.0%
Total	Count	175	185	360	
	Expected Count	175.0	185.0	360.0	
	% within Type of Produce	48.6%	51.4%	100.0%	

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.552 <sup>a</sup>	3	.023
Likelihood Ratio	9.631	3	.022
Linear-by-Linear Association	.375	1	.540
N of Valid Cases	360		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 43.75.

Source: Compiled by authors

The Marshallian model of consumer choice places a significant emphasis on the price of the good as influencing consumer choice when the goods are ranked according to their marginal utility (Ginghina, 2013). A change in the price of a good determines a change in the purchasing power of consumers (income effect) and a change in the relative price of goods (substitution effect). The aggregate consumer responsiveness to changes in price and income is measured using the price elasticity and the income elasticity of demand, respectively (Sabatelli, 2016).

Based on the findings of this study, a discount in price does impact the purchase decision of the consumer which conforms to traditional Marshallian theory which states that a normal good would have an increased demand for that good when the price is reduced.

**Information Nudge and Consumer Choice**

A McNemar test was performed for the third hypothesis (H<sub>3</sub>). All those

who responded as choosing the optimal choice across all four products were considered as those in the optimal choice group and the rest were tagged to the sub-optimal choice group even if the choice was only for one product category to form the before the nudge variable. The McNemar test results confirmed with 95% confidence that a change in consumer responses was observed after the information on organic and non-organic foods were provided to the respondents. Following the nudge, the proportion of those who choose to buy organic produce increased by 53 respondents (58%), a statistically significant difference,  $\chi^2(1) = 42.875$ ,  $p = .000$ .

**Table 3: McNemar test for before nudge and after nudge**

Before Nudge & After Nudge		
Before Nudge	After Nudge	
	Optimal Choice (Non Organic)	Sub-Optimal Choice (Organic)
Optimal Choice (Non Organic)	4	53
Sub-Optimal Choice (Organic)	3	30

**Test Statistics<sup>b</sup>**

	Before Nudge & After Nudge
N	90
Chi-Square <sup>a</sup>	42.875
Asymp. Sig.	.000

a. Continuity Corrected

b. McNemar Test

Source: Compiled by authors

In total 92 percent of the sample prefer organic (sub-optimal) produce and on average those in the sample were willing to pay 47 percent more on organic produce than non-organic produce irrespective of the visual appearance of the produce. This is in contract to an average 29 percent of a price difference (discount) enticing customers to buy the organic (sub-optimal) produce.

As explained in the literature review, the researchers have elaborated on the theory of nudge and choice architecture. The results of this study show that consumer choice can be nudged to a certain outcome, and in this case to choose organic produce irrespective of how their visual appearance. This is also supported by similar studies done in other

countries (Bunn et al., 1990; Bolos et al., 2019).

### **Socio-Demographic variables and Consumer Choice**

The fourth hypothesis (H<sub>4</sub>) was analyzed with the support of a linear regression analysis. Before carrying out the regression analysis the individual choices of each of the produce variables were reduced to one variable of 'overall optimal choice'. This variable was calculated as the number of times respondents selected the optimal product and treated in all analyses as a ratio scale.

A linear regression analysis with overall optimal choice as the dependent variable and condition, demographic factors (gender, age, income, education, household composition) as independent variables indicated that age, income, education, the household composition did not significantly influence the purchase of optimal produce ( $F(7, 82) = 3.025$ ,  $p = 0.063$ ,  $R^2$  adjusted = 0.58). The results also indicated that the variables on an individual level are not significantly affected by the dependent variable ( $p$ -value less than 0.05).

**Table 4: Regression results of overall optimal choice**

Variable	Coefficient	t-value	p-value
Gender (1= male, 0= female)	-0.120*	-1.966	0.054
Age	0.046	1.145	0.225
Education level (1= graduate & above, 0= below graduate)	-0.014	-0.301	0.764
Monthly salary	0.022	1.228	0.223
Household composition (HC) (base category is single)			
HC 1 (1= extended family unit, 0 = otherwise)	-0.042	-1.652	0.108
HC 2 (1= Family with no kids, 0= otherwise)	0.012	1.846	0.065
HC 3 (1= Family with kids, 0 = otherwise)	0.123	1.143	0.224
Constant	0.756*	6.231	0.000
<b>R<sup>2</sup> = 0.58; F = 3.025 (0.063), N = 90; Dependent variable overall optimal choice ratio</b>			

Source: Compiled by authors

Therefore, these results do not support a similar study done in India by Singh et al., (2017) which shows that age, income, and education have a significant influence on actual buying behavior. A study done by de Hooge

et al. (2016) highlight that consumer preferences of suboptimal products are influenced by demographics and personality characteristics.

One explanation for the difference in the demographic results of the Sri Lankan study against the study done in India and Europe may be due to the COVID-19 pandemic situation. Sample size and the online method of data collection may be some other limitations. Further, this could also be a deficiency of the sampling method of using a convenience sample, as not all segments of the population are being proportionally represented in the sample.

#### **4.2 Limitations**

A few factors that need to be considered and kept in mind, and when looking at the results of the hypothesis.

**Factor 1:** Taking the first hypothesis, the perception of optimal and sub-optimal products lies in the eye of the consumer, it is subjective to the respondent, and this study does not consider the subjective nature of choice. The researchers have labeled the discolored, less than perfect-looking choice as the sub-optimal one. The researcher also assumes a fair vision of all respondents and disregards factors such as color blindness and other vision impairments. Further, The survey has also not asked the respondents if their preferred place of purchase was retail or modern trade which would have an impact in terms of presentation.

**Factor 3:** The initial sample size was 42 respondents, with 8 respondents not picking either the optimal or sub-optimal product hindering the hypothesis outcome. Therefore, the sample size was later increased to 98 and the 8 respondents who did not pick choices excluded, the sample size of 90 consumers may not be sufficient to generalize the results. Therefore, to expand the validity of the results more studies with a bigger sample size should be conducted in this direction. However, a sample size above 30 could be assumed as a normal distribution according to the central limit theorem.

#### **5. Conclusion**

In conclusion, this research was conducted to understand consumer

preferences on optimal and suboptimal fresh produce and responses of different customer segments (demographics), and response to changes in price (discounts) and to gauge the response to the concept of nudge in behavioral economics. The findings provide important insights into consumers' choice of optimal and suboptimal products. The results show that consumers react positively to optimal products and color, texture, etc. are factors that influence the purchase decision. Price changes impacts consumers' choice in purchasing that fresh produce and consumers can be influenced by a nudge which highlights the health aspects has a greater impact on the consumers purchasing that product. This study further shows that consumers' purchase decisions of optimal or sub-optimal products are not influenced by socio-demographics (gender, age, income, household composition).

This research paper also paves the way for two more interesting studies on food wastage as the suboptimal products may not leave the shelves hence end up in the bins and also the study on pesticides and use of other chemicals to ensure visually optimal products reach the marketplace from the farm and the harm it causes to the end consumer. The question remains whether the highly commercialized food industry and its malpractices and its little regard for consumer wellbeing, are a result of our own choices.

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