Influence of Socio - Demographic Profile in Environmental Knowledge and Concern on Green Purchasing Decision of The Consumers in the Fifth District of Cavite

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Abstract: The aim of this research was to determine the environmental knowledge and concern in relation to the green purchasing decision of the consumers. Also, this research identified the socio-demographic profile of the participants in terms of age, sex, net monthly income, and educational attainment and its influence to their environmental knowledge and environmental concern. This used a descriptive-correlation method which involved collecting factual information to describe the socio-demographic profile of the participants using a modified survey instrument. The participants were 356 household heads who were selected systematically in municipalities of Carmona, Silang, and General Mariano Alvarez, Cavite. The study was conducted from August 2016 to February 2017. The data were analyzed using frequency count, weighted mean, and multiple regression.

Results revealed that household of the fifth district of Cavite were mostly adult with age ranging from 34 to 41 years old, female with a net monthly income of Php 5,001 to Php 10,000 and high school graduates. Consequently, participants were highly knowledgeable in environmental system factor of environmental concern and highly concerned in coexist with nature factor of environmental concern. The household buys green products specifically organic food. It was found out that socio-demographic profile has very weak positive correlation with the environmental knowledge and environmental concern. Sex has the significant influence to environmental knowledge while there was no socio-demographic profile that could significantly influence the environmental concern. This also showed that effectiveness knowledge has a weak significant influence in green purchase decision while coexist with nature has a very weak significant influence with the green purchase decision.

Key Words: Socio-demographic; Environmental knowledge; Environmental concern; Green purchasing decision.

1. INTRODUCTION

1.1 Background of the Study

The fifth district of Cavite, also known as CarSiGMA, was composed of three developing municipalities namely; Carmona, Silang, and General Mariano Alvarez. Behind the progress of these municipalities were industrial parks that were located in their locales. These industrial parks have contributed to the global warming and the different types of pollution that the world has been experiencing nowadays.

The industrial revolution and rapid advancement to technology have caused the world both positive and negative effects to the mankind and environment. While enjoying the perquisites of progression in the field of technology, most humans have forgotten the opposite effect of these in the nature. Most people have the environmental

knowledge and concern that may help in reducing the negative effects of the continuous industrialization and technology advancement. The environmental knowledge is what people know about the environment, key relationships leading to environmental impacts, an appreciation of the whole system, and collective responsibilities necessary for sustainable development (Mostafa, 2007). Environmental concern, on the other hand, refers to the degree of emotional involvement in environmental issues, and it taps the individuals' affective response towards environmental protection (Lee, 2008).

To address the growing environmental awareness of the people, green marketing was brought up. Environmental or green marketing is an activity which deals with how an organization or an individual can take proactive role by assuming responsibility for its products and packages during and after use, reuse, and disposal (Halay Hao, 2003). This practice involves promoting environmental friendly product and other product aspects like packaging, price, and promotion. It also requires pro-environmental buying behavior of an individual.

Subsequently, this study aimed to determine the influence of age, sex, net monthly income, and educational attainment of the household heads from the fifth district of Cavite to their environmental knowledge and concern and the relationship of these two to their green purchasing decision. These can help marketers to be able to create and sell products that do not harm the environment. Also, to have further understanding about the behavior of the consumers towards green products.

1.2 Objectives of the Study
1. the socio-demographic profile of the household in the fifth district of Cavite in terms of age, sex, net monthly income, and educational attainment;
2. if socio-demographic profile has significant influence to the environmental knowledge of the participants;
3. if socio-demographic profile has significant influence to the environmental concern of the participants;
4. the environmental knowledge factor that the participants were most knowledgeable of;
5. the environmental concern factor that the participants were most concerned to;
6. the green purchase decision of the participants;
7. if environmental knowledge of the participants has significant influence to their green purchasing decision;
8. if environmental concern of the participants has significant influence to their green purchasing decision; and

9. the eco-friendly product that participants frequently buy.

1.3. Scope and Limitation
The study focused on the influence of socio-demographic profile of the consumers in the fifth district of Cavite to their environmental knowledge and environmental concern in relation with their buying decision. The participants were the household heads who were responsible for budgeting and purchasing household products. The age of the participants ranges from 18 years old and above.

2. METHODOLOGY

2.1 Hypothesis
This research study tested the following hypotheses at $\alpha = 0.05$:

Ho_1. Socio-demographic profile has no significant influence in the environmental concern in terms of:
$Ho_{1.1}$. Age to environmental concern.
$Ho_{1.2}$. Sex to environmental concern.
$Ho_{1.3}$. Net monthly income to environmental concern.
$Ho_{1.4}$. Educational attainment to environmental concern.

Ho_2. Socio-demographic profile has no significant influence in the environmental knowledge in terms of:
$Ho_{2.1}$. Age to environmental knowledge
$Ho_{2.2}$. Sex to environmental knowledge
$Ho_{2.3}$. Net monthly income to environmental knowledge
$Ho_{2.4}$. Educational attainment to environmental knowledge

Ho_3. Environmental knowledge has no significant influence to green purchasing decision.

Ho_4. Environmental concern has no significant influence to green purchasing decision.

2.2 Sampling Technique
Systematic proportionate sampling was used in the study. The researcher used Krejcie and Morgan (1970) formula whereby 382 participants were surveyed out of the total 61, 150 households. However, due to the absence of other household heads at the time of their survey, or refusal to answer the instrument used, only 356 (93%) were surveyed. A systematic sampling of every 5th household was observed and the unavailability of some participants made the researcher to proceed to the next available participant. The distribution of the sample population was proportionate to the total households of each municipality (Table 1).

Table 1. Distribution of participants in the fifth district of Cavite

MUNICIPALITY	TOTAL HOUSEHOLD (N)	SAMPLE SIZE	PERCENTAGE (%)
Carmona	18,854	123	32
Silang	14,897	95	25
GMA	27,399	164	43
Total	61,150	382	100

The sample size was allocated proportionately with the number of population of each barangay. Krejcie and Morgan (1970) formula:

$$S = \frac{X^2 NP\ (1\text{-}P)}{d^2(N\text{-}1)+X^2P(1\text{-}P)}$$

where:
S = required sample size
X^2 = the table value of chi-square for one degree of freedom at the desired confidence level
N = the population size
P = the population proportion
d = the degree of accuracy expressed as a proportion

The researcher used the formula because the population size is known and finite.

$$S = \frac{(1.96^2)(61,150).50\ (1\text{-}.50)}{(.05)^2(61,150\text{-}1)+(1.96)^2(0.5)(1\text{-}0.50)}$$

$$S = \frac{(3.8416)(61,150).50\ (.50)}{(0.0025)(61,149)+(3.8416)(0.50)}$$

$$S = \frac{58,728.46}{152.87+0.9604}$$

$$S = \frac{58,728.46}{153.83}$$

$$S = 381.77 \text{ or } 382$$

2.3 Data Gathered

Pilot testing was done to observe the clearness of the content of the survey instrument. The instrument was also tested with Cronbach alpha to ensure its credibility and resulted to .810 of scale reliability. The instrument was composed of the modified questions from the study of Alibeli and Johnson (2009) and Mun (2014).

A four-point Likert scale was used to measure the responses of the participants for environmental knowledge (Table 2) and environmental concern (Table 3) as follows:

Part II and III: Environmental Concern and Environmental Knowledge
4 – Strongly Agree
3 – Agree
2 – Disagree
1 – Strongly Disagree

Table 2. Descriptive interpretation for environmental knowledge

SCORE	EQUIVALENT INTERPRETATION
3.26 – 4.00	Highly Knowledgeable
2.51 – 3.25	Knowledgeable
1.76 – 2.50	Slightly Knowledgeable
1.00 – 1.75	Unknowledgeable

Table 3. Descriptive interpretation for environmental concern

SCORE	EQUIVALENT INTERPRETATION
3.26 – 4.00	Highly Concern
2.51 – 3.25	Concern
1.76 – 2.50	Slightly Concern
1.00 – 1.75	Unconcern

On the other hand, dichotomous scoring was used for green purchasing decision part of the questionnaire, as follows (Table 4):

Table 4. Descriptive interpretation for green purchasing decision

SCORE	EQUIVALENT INTERPRETATION
1.51 – 2.00	Buy
1.00 – 1.50	Did not buy

A total of 356 (93%) household were surveyed by the researcher.

2.4 Statistical Treatment of Data

The following statistical tools were used to ensure a valid interpretation of data.

Frequency count, percentage, and weighted mean were used to determine the socio-demographic profile, the environmental knowledge factor that the participants were most knowledgeable, the environmental concern factor that the participants were most concern, as well as the, the product that the participants frequently buy.

Multiple regression was also used to determine the significant influence between the socio-demographic profile of the participants to their environmental concern and knowledge and to

determine the influence of environmental knowledge and concern in their green purchasing decision.

3. RESULTS AND DISCUSSION

Socio-demographic Profile of the Participants

A descriptive study associates gathering of factual and detailed information to describe the profile of the participants which is presented in Table 5.

Age. The result shows that 77 participants (22%) belonged to the age bracket of 34-41.

Sex. Majority (83%) of the participants were female.

Net Monthly Income. There were 123 (35%) household heads earning P5,001 to P10,000 and only 4 (1%) of the participants were earning P35,001 and above. Such results can be explained that most of the participants surveyed were *sari-sari* store owner or vendors who have lower income.

Educational Attainment. Majority of the participants (37%) were high school graduates while only one participant has a doctorate degree.

Table 5. Demographic profile of the household heads of in the fifth district of Cavite

DEMOGRAPHIC PROFILE	FREQUENCY (N=356)	PERCENTAGE (%)
Age		
18-25	40	11
26-33	52	15
34-41	77	22
42-49	74	21
50-57	46	13
58 and above	67	19
Sex		
Male	60	17
Female	296	83
Net Monthly Income		
Below P5,000	95	27
P5,001-P10,000	123	35
P10,001-P15,000	69	19
P15,001-P20,000	30	8
P20,001-P25,000	17	5
P25,001-P30,000	12	3
P30,001-P35,000	6	2
P35,001-above	4	1
Educational Attainment		
Elementary Level	18	5
Elementary Graduate	26	7
High School Level	64	18
High School	130	37
Graduate		
College Level	59	17
College Graduate	55	15
Masteral Degree	3	1
Doctorate Degree	1	0

Influence of Socio-demographic Profile in Environmental Knowledge

Table 6 shows the significant influence of socio-demographic profile of the participants to their environmental knowledge.

Table 6. Influence of socio-demographic profile to environmental knowledge of the participants in the fifth district of Cavite

	COEFFICIENTS	STANDARD ERROR	T STAT	P-VALUE
Age	0.004	0.0149	0.270	0.787
Sex	0.161	0.062	2.592	0.009
Net Monthly Income	0.018	0.0165	1.107	0.268
Educational Attainment	-0.024	0.0196	-1.215	0.224
Multiple R	0.165			
R Square	0.0275			
Adjusted R Square	0.016			

Sex, with positive regression coefficient, indicate that it was statistically significant predictor of the environmental knowledge. ($p < .05$). It was supported by the study of Jain et al., (2006), stating that males in India tend to have higher and better knowledge about green issues than females because males are generally more outgoing hence, more exposed to the environmental information than females.

Influence of Socio-demographic Profile in Environmental Concern

Table 7 shows the significant influence of socio-demographic profile of the participants to their environmental concern.

Table 7. Influence of socio-demographic profile to environmental concern of the participants in the fifth district of Cavite

	COEFFICIENTS	STANDARD ERROR	T STAT	P-VALUE
Age	0.003	0.013	0.299	0.765
Sex	0.073	0.054	1.346	0.179

Net Monthly Income	0.023	0.0144	1.572	0.117
Educational Attainment	-0.012	0.0178	-0.700	0.484
Multiple R	0.112			
R Square	0.013			
Adjusted R²	0.001			

ITEM	MEAN	STANDARD DEVIATION	EQUIVALENT INTERPRETATION
Environmental Efficacy	3.20	0.550	Concern
Coexist with Nature	3.42	0.567	Highly Concern
Master Nature	2.48	0.590	Concern

There socio-demographic profile ha a very weak positive influence and environmental concern. Though there is a positive correlation, there was no socio-demographic profile that could significantly influence the environmental concern of the participants.

Environmental Knowledge Factor Household Heads were Most Knowledgeable of

The participants were highly aware to the fact that the environmental problem was worsening. This is due to evident environmental complications like climate change that the humanity was experiencing. It can also be described by the fact that facts about environmental system were being taught at early age and at elementary education and all of the participants had their elementary education.

Table 8. Environmental knowledge factor that household heads were most knowledgeable of

ITEM	MEAN	STANDARD DEVIATION	EQUIVALENT INTERPRETATION
Environmental System	3.45	0.550	Highly Knowledgeable
Behavioral Options	3.30	0.546	Highly Knowledgeable
Effectiveness of Environmental Behavior	3.22	0.598	Knowledgeable

Environmental Concern Factor Household Heads were Most Concerned With

It was revealed that the participants were most concerned on the coexist with nature factor. It can be explained by the activities that the people were conducting in order to lessen or to end the environmental deprivation that can help in preserving the environment for the future generation. Since most of the participants were parents and grandparents, they were more likely concern to the environment because they care for welfare of their children and the next generation.

Table 9. Environmental concern factor that household heads were most concerned

Green Purchase Decision

Table 10 shows the decision of the participants in the fifth district of Cavite. The participants agreed with all of the statements which means that they purchase green products.

Table 10. Green purchase decision of the household heads in the fifth district of Cavite

ITEM	MEAN	STANDARD DEVIATION	EQUIVALENT INTERPRETATION
Green Purchase Decision	1.81	0.225	Buy

The result is in contrast with the statement of Massachusetts Department of Environmental Protection (2002) that, consumers are extremely price sensitive towards green products and are more likely unwilling to pay higher prices for green products.

Result shows that the household heads of the fifth district of Cavite still bought green even when it was more expensive than the usual one, when they saw that the products contains material that do not harm the environment and if it has the same quality with the non-green products. This is due to the reason that they consider sustainability be a dominant in purchase decision-making rather than the price and other purchasing factor.

Influence of Environmental Knowledge and Green Purchase Decision

Table 11 shows that there was a weak positive correlation between environmental knowledge of the participants and green purchase decision.

Table 11. Influence of environmental knowledge and green purchase decision

	COEFFICIENTS	STANDARD ERROR	T STAT	P-VALUE
Environmental system	-0.038	0.023	-1.655	0.09855
Behavioral Options	0.029	0.024	1.204	0.2293

			4.7	2.97
Effectiveness				
Knowledge	0.105	0.022	49	7^{-6}

Multiple R	0.288
R Square	0.083
Adjusted R Square	0.075

The study shows that the knowledge of the individual about the effectiveness of their behavior can influence their green purchase decision. A value of R^2 which resulted to .083 indicate that only 8 percent were explained on the variability of the response data around its mean.

The result shows agreement to the study of Mostafa (2009), stating that environmental knowledge has a significant influence towards the purchase of green products.

Influence of Environmental Concern and Green Purchase Decision

Table 12 shows that there is a very weak positive correlation between environmental concern and green purchase decision. Findings shows that the coexist with nature concern of the participants has bearing in their decision to buy green product. A value of R^2 which resulted to .042 indicate that only 4 percent were explained on the variability of the response data around its mean.

Table 12. Influence of environmental concern and green purchase decision

	COEFFICIENTS	STANDARD ERROR	T STAT	P-VALUE
Environmental Efficacy	0.040	0.024	1.668	0.096
Coexist with nature	0.0535	0.023	2.291	0.023
Master Nature	-0.016	0.0199	-0.793	0.429
Multiple R	0.204			
R Square	0.042			
Adjusted R Square	0.034			

Green Product that the Household Head Usually Buy

The green product that the participants usually buy was the organic food, as shown in Table 13. More than half (54%) of the household heads in the fifth district of Cavite have bought organic food. It is due to the reason that food is considered as one of the physiological needs and it has a direct effect on the health of the participants.

Table 13. The green product that the household head usually buy

ENVIRONMENTAL PRODUCT	FREQUENCY	PERCENTAGE (%)
Organic food	193	54
Energy-saving electrical appliances	52	15
Clothes/wears made from natural fabric	92	26
Do not buy	19	5

Organic food was followed by clothes that were made from natural fabric that was bought by 92 (26%) household heads. 15% of the participants bought energy-saving electrical appliance while only 5% of the household heads of the fifth district of Cavite do not buy green products.

4. CONCLUSIONS

From the foregoing results, a conclusion was inferred.

Eco-friendly marketers should segment their market in terms of sex and target those who has more concern and knowledge on the environment.

The consumers' high concern in conserving the natural environment and high knowledge in the causes and effect of environmental issues affect their decision on buying green products. Due to this, marketers can take advantage by producing and promoting products, especially food products, that can response to ecological concerns of the consumers.

5. ACKNOWLEDGEMENTS

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