

Economic and Non-Economic Variables Affecting Consumer Preferences of Quezon City Households on Sachet Products

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ABSTRACT - Sachet managed to progress through time which led to the existence of ‘tingi’ culture throughout the rural and urban areas in the Philippines. Given that sachets are utilized in countries with a massive population, the success of these products has become evident and essential to the daily lives of consumers. This study seeks the relationship between various economic and non-economic variables on consumer preferences of Quezon City households towards purchasing sachet products. Using a non-probability quota sampling, a survey questionnaire is employed to determine how household income, household size, affordability, marketing strategies, reasons for buying sachets, and consumers’ self-regulation are perceived by different households. The findings of this study suggest that sachet consumption is highly affected by the consumer's preferences and purchasing practices due to the phenomenon that has influenced Filipino culture. The researchers of this study aim to fill the gap in research and provide knowledge about mini packets with massive economic impact. Furthermore, the concept of Consumer Theory is also applied which shows that individuals have the right to choose from the options of goods and services that are available, which are bound by several factors, including budget constraints and personal preferences.

KEYWORDS: sachet consumption, consumer behavior, Economic variables, single-serve products

1. INTRODUCTION

Sachet is described by researchers as micro packs or piecemeal purchase options that are used by businesses to increase market penetration in economically underprivileged societies (Ang and Sychangco, 2007; Singh, Ang, and Sy-changco, 2009). It is a small sealed plastic pack containing a lower volume or quantity of a certain product. Over the years, there has been an increase in the production of sachets mainly because of its affordability, convenience, and indispensability. A study done by Global Alliance for Incinerator Alternatives (GAIA) in 2019 showed that 163

million pieces of plastic sachet a day are sold and consumed in the Philippines. It is estimated as 60 billion sachets a year or enough to cover 130,000 soccer fields (Lema, 2019). These numbers are a representation of how the Philippines is a sachet-driven economy.

The sachet or “tingi” culture paved the way for the low- and middle-income earners in the economy to take control or practice their ability to purchase essential products that cater to their needs when it comes to the convenience and affordability that these products necessarily bring to the consumers. However, the ongoing misconception that occurs with the low-income earners in the country involving their ability to not contribute to consuming products is basically misunderstood by other industries. As stated by Anderson and Billou (2007), most businesses are pursuing strategies to develop a plan on how to provide quality products and services to consumers that are the world's most needy. Because of this, accepting the challenge of serving the low-income earners by the producers has been able to do so profitably.

In this study, the researchers aimed to determine the relationship of economic and non-economic variables that affects the sachet consumption of residents from Quezon City in Metro Manila. The sachet economy is represented by sachet consumption of different classes of income earners in Quezon City. It is quantified through the value of sachet products which are considered as the essential and easily used products in a household. Household income, household size, and affordability are the economic variables used. Non-economic variables included in this study are marketing strategies that influence consumers' preferences towards sachet products in different categories of food and non-food items, and self-regulation.

As consumer behavior plays a significant part in business, the researchers attempted to contribute to the private sector such as small and big enterprises and fast-moving consumer goods (FMCG) companies by presenting the findings on consumer preferences. By the provided recommendations, businesses would be able to look at their marketing perspective and strategies on sachets that cater to the needs of all classes of consumers more in-depth. This study served as an additional contribution to the knowledge regarding the sachet phenomenon and Filipino culture through the representation of consumer behavior towards single-serve products.

2. LITERATURE REVIEW

2.1 Sachet Economy

Packaging is a technical tool in the market because it is a way of transparently communicating with consumers (Restuccia et al., 2010). One of the flexible packages includes a sachet or pouch because of convenience without having to sacrifice the quality (Jain and Bathla, 2016). Though package sizes are not universal because of different perceptions, they are used by different brands to consider both manufacturer cost and consumer demand (Yonezawa and Richards, 2016; Shirai, 2020). Leading to the presence of sachet, which is referred to as trial packs, regular stock-keeping units, and piecemeal purchase options. It is an ingenious way to increase market penetration at the bottom of the pyramid of developing markets such as the Philippines, India, South Africa, and

other emerging markets. (Singh et al., 2009; Sy-Changco et al., 2011). Similarly, Pardesi et al. (2015) said that sachets are efforts made by marketers to make goods available to those who could not afford the regular size of products. Moreover, Chittora and Awasthi (2020) found out that sachet products such as biscuits, snacks, coffee, etc. are routine items for those who frequently purchase them. A single-serve sachet is a result of how companies design products to meet the unique characteristics of the bottom of the pyramid market as mentioned by Nulkar (2016). Another reason outside of the already given ones is there are products that are considered as routine items, meaning it could be separated by serving size per sachet.

In general, there could be many factors as to why the sachet economy exists. Depending on the economic situation and behavior of the market, one reason could not be used to explain the continuous rise of the sachet economy. In the case of the Philippines, the emergence of sari-sari stores is one indication of the success of a sachet-driven economy, be it due to economic capability limitations or different personal preferences of the consumer (Sy-Changco et al., 2011). Marketing also plays a role in the success of the sachet economy by persuading the market of its high value for money. Furthermore, it is a bold move for conglomerates to start sachet marketing to attract consumers (Manickam, 2005). For several decades now, consumer goods companies have been offering commodities in micropacks to penetrate the market and increase the number of sales from the low-income segments (Singh et al., 2009; Kandpal, 2015). Having a large market share through promotion, sachet packaging is a result of persistent testing being undertaken by fast-moving consumer goods or FMCG companies to deliver something novel to customers in terms of quality and quantity (Shohowardhy and Hassan, 2015; Mehra and Singh, 2016). Light-weight, smaller bakery and snack packages are more preferred since they are affordable and convenient for consumers, smaller packs are fit to the consumer needs. In addition to this characteristic, it is found that if the popular products are served in small-sized varieties specifically in less than the 100 Gms consumers preferred its consumption to enjoyment at moments of solo consumption (Kulkarni, 2019).

Contrary to the claim that sachet products serve only underprivileged individuals, Ang et al. (2007) said that the existence of a large economic underclass is not the only reason behind the success of a sachet economy because if it was, it should be more prevalent to countries much poorer. Findings showed that critical success factors are extensive retail distribution, favorable socio-cultural factors, higher perceived value by the consumers, and technology to reduce packaging costs. Together with price as a dominant factor, an exploratory study conducted in India showed that media advertisements brought about by the marketing strategies are also reasons behind the sachet economy (Bhattacharya and Roy, 2013). Moreover, while sachet consumption is high in the Philippines, a study conducted by Pornpitakpan et al (2015) came up to the conclusion that Chinese consumers are less conducive to sachets mainly because of a higher level of disposable income, historical habits, and inconvenience of frequent purchases.

2.2 Sachet Economy and Economic Variables

2.2.1 Relationship of Sachet Consumption and Household Income

When it comes to sachets, a study showed that the companies are trying to trigger growth specifically in rural areas in developing countries. They are identifying the fact that rural people are now in a better position with disposable income. The low rate of finance availability has also increased the affordability of purchasing the costly products by the rural people. Marketers should understand the price sensitivity of a consumer in a rural area as shown with small sachet packs (Chandra and Sekhar, 2012). The product acceptability of mini products (sachet), including packaged or sachet water in the developing countries or low-to-middle income countries (LMICs) are higher as compared with the developed countries due to the low level of income and restricted expenditure pattern (Sohel, Shohrwardhy and Karim, 2016; Wright, 2017). In India, one strategy used to increase consumption among Indian customers with less disposable income is to package different varieties of consumer items in small low-cost packets (Schensul et al., 2012). Related to that study, Gupta and Mehra (2012) revealed that an average Indian tends to spend around 40% of his income on groceries and 8% on personal products. Small packets of biscuits, snacks are well-liked with customers belonging to the lower-income segment as they have to shell out a very limited amount of money for a one-time requirement. Some multinational corporations (MNCs) served the lower-income and below the poverty line segments with fast-moving consumer goods which pursued strategies of experimentation in developing unique product and service propositions for some of the world's most needy consumers, through low-priced micro-packs for daily necessities such as shampoo, soaps, cigarettes, and food. While these 'sachets' did not represent the most economical way of purchasing goods, they met the needs of consumers in terms of the low purchase price (Anderson, 2006).

Known as the combined income of household members, relating household income with consumption is vital in examining consumer preferences on sachet products. A past work by Mooney (1990) related income with consumption where he said that a district with the lowest incomes will have the least opportunity to improve their diets because of poor availability and choice of the healthy food varieties in the deprived areas, and the disincentive of a relatively higher price premium on healthy food choices. If those on the lowest incomes can neither find appropriate foods in their local shops, nor afford many of the recommended foods, food policy guidelines may largely be implemented by the better off, in higher social classes. The sachet production through the perspective of ready-to-drink coffee (RTD) and its relationship between income and demand show that stores are less accessible in lower-income neighborhoods than in higher-income neighborhoods, which leads to decreased demand in coffeehouse chains. On the other hand, ready-to-eat foods have gained prominence in recent times due to the increasing working population with higher disposable incomes (Chaudhury, 2010; Young et al, 2021). In addition, it was found out by Bennet et al (2019) that low-income shoppers highlighted the importance of "buying on sale" and "stocking up" and noted that low-income participants spent a lot of their time and took a lot of pride in following the cycles of supermarket price promotions. Consumers are not necessarily purchasing the cheapest item available when they purchase price-promoted products

and raises questions as to how consumers define value, what they consider to be a “good deal,” and how the perception of getting “value for money” varies across different income groups.

2.2.2 Relationship of Sachet Consumption and Household Size

Researchers in the past have examined the relationship between consumption and household size and they believed that in the consumption of household products, the household size must be considered and analyzed (Annuziata et al, 2019). Data from rich and poor countries indicate that, at constant per capita total expenditure, the per capita demand for food decreases with household size and that it does so most in the poorest countries, where substitution should be the least (Deaton and Paxson, 1998). By using size to estimate sachets and liters of what one person can consume, results of previous works found that family size has a significant positive impact on the consumption expenditure (Kiran and Dhawan, 2015; Wardrop et al, 2017).

A study by Annunziata et al. (2019) found that increasing household size reduces the likelihood of buying local products. Scholars have argued that the difference in household size will be evident in pro-environmental as well as regular consumption behavior (Kumar et al, 2021). Bick and Choi (2013) revisited the effect of household size on consumption, and they found out that households want to allocate more consumption to periods when their size is bigger considering utility equals the household size. Findings from other works also showed that even when large families tend to be poorer, they need to buy larger quantities of products due to the higher level of consumption. The household size effect indicates the change in the allocation of total expenditure among various commodity groups when family size increases. An increase in family size requires an additional expenditure on various goods on account of increased liability of absolute necessity (Musgrove, 1980; Lanjouw and Ravallion, 1995; Bawa and Ghosh, 1999; Shamim and Ahmad, 2007).

In most Western countries, the growing popularity of smaller package sizes is mainly due to the rapid increase in the number of singles, as well as to a general decline in household size. It is stimulated by the increase of the number of single-person households because of time pressure and because the inclination to prepare all the food by oneself may be less prevalent if there is nobody to share the meal with (Steenkamp, 1997). While that is the case in Western countries, it is not that applicable in the Philippines because of various factors.

2.2.3 Relationship of Sachet Consumption and Affordability

In any good or service, price is an important factor that influences consumers' preferences and purchasing decisions. Price perception becomes a consumer judgment of products and services according to Rachmawati and Muflikhati (2017). This resulted in businesses' innovation of products that offer the right amount of quality and quantity. Vermeiren et al. (1999), in their past work, showed that the commercial application of innovative food packages might cause an increase in individual product unit costs and prices, especially during the early phases of product introduction, which may directly affect consumer behavior and acceptance. Recently, it was found out by Petita et al (2019) that larger food packages are often preferred by consumers because they are associated with a decrease in per unit costs and therefore may lead to monetary savings.

Reduction in price, as well as package size of products, can prove to be an effective marketing decision in turbulent times such as downturns. The researchers concluded in their study that sachets are more acceptable in emerging markets due to low-income levels and budget constraints (Chittora and Awasthi, 2020).

In the study of Jaiswal A.K. (2007), he mentioned that the company called CavinKare wanted to attract the lower-middle class with an income of INR 1500-3000 per month by introducing Low Unit Packs (LUP) through sachets. This is because the target consumers have tighter budgeting, so they would prefer to buy smaller quantities of every essential to have more needs being bought. Leading to the presence of sachet packs, which were not fully supported by consumers living in urban areas. Therefore, for the company to keep their product's brand, targeting consumers who lived in rural areas became their priority because of the high acceptance of sachets. (Andaleeb and Latiff, 2017; Jaiswal, 2017). In addition to the claims, Chittora and Awasthi (2020) emphasized that in rural areas, the number of family members and price perception on purchasing decisions toward sachet influenced significantly.

Since many consumers are paid on a daily rather than weekly basis and spend their income immediately, they make instantaneous choices between product categories rather than planning purchases on a weekly basis. This requires products that are affordable, often single-use sizes, and price points that reflect the number of discretionary income consumers typically carry (C. Samuel Craig, and Susan P. Douglas, 2011). Several authors investigated the relationship between consumers' perception and the price of sachet products. Findings showed that price or affordability is the most dominant factor on why they continue to buy sachets. (Pardesi et al, 2015; Rachmawati and Muflikhati, 2017; Awasthi and Chittora, 2020). The consumers are well-aware of the price benefits of sachet products. With that, people who have low incomes, those at the bottom of the pyramid (BOP), or those who consider themselves poor buy more sachets to meet their daily needs and wants (Anderson and Billou, 2007; Patel and Bhatt, 2015; Jaiswal and Gupta, 2015).

2.3 Sachet Economy and Non-Economic Variables

2.3.1 Relationship of Sachet Consumption and Marketing Strategies

Through time, Suprihanti (2012) and Pant and Joshi (2016), found out that the consumer is affected by globalization and advertising impact from mass communication media such as television, radio, newspaper, and other magazines. These are instrumental in motivating consumers to purchase more. Advertisement on print and electronic media was the most preferred source of information and 'past performance' of a micro-pack was the most significant attribute while making a purchase decision as mentioned by Mehra and Singh (2016).

Similar to other goods and services, sachet products are also marketed in a way that consumers will be receptive to the said products. For an increased number of sales, effective marketing on sachet products has to be done because popularity plays an important role (Sy-chango et al, 2011). Marketing has always sought personalization, whether of the advertising message or through

customization of the product. Some companies understood not only the power of mass customization but also the importance of serving smaller and smaller segments, with products better suited to their needs (Clemons, 2014). Findings showed that consumers in all income segments look into the physical appearance of the sachets aside from its affordability. Packaging criteria of sachets, namely storage, the convenience of purchase, prices of different package sizes, and reusability of packaging are factors considered that are related to consumers' purchasing decisions. It could be treated as one of the most valuable tools in today's marketing communications, necessitating a more detailed analysis of its elements and an impact of those elements on consumer's buying behavior (Deliya, 2012; Oodith, 2018).

Advertisements convey the message to the targeted consumers, groups, or individuals and it attracts the users to use the company goods and services which changes consumer behavior too (Rasoolet al, 2012; Bashir and Malik, 2020). As a response to marketing strategies, Nelson (1970) emphasized that if the consumer likes what he sees in an advertisement for a search good, he will make sure that he searches that brand. The consumer will then buy the best of the set he has examined. Following this conclusion, the consumer spent more on the sachets that are fast-moving consumer goods (FMCG) because daily used products are relevant to more advertisements as mentioned by Rasoolet et al (2012). With that, their consumption of sachet products increased. Similarly, Bashir and Malik (2020) explained that because consumers want novel products in terms of quality and quantity, advertisers and marketers designed novel ads just to gain their attention. To be more effective and influential in a positive manner, the ad of a particular brand must have all the qualities of a good ad. It was also found out that people form attitudes towards objects based on their beliefs, perception, and knowledge about these objects.

2.3.2 Relationship of Sachet Consumption and Self-Regulation

According to Kopetz et al (2012), the assessment self-regulatory mode refers to an orientation toward critical evaluation of alternatives in order to do the "right" thing or choose the "best" option. Given that consumer behavior is commonly perceived as goal-oriented, consumers' selfregulatory abilities may affect decision-making by determining the dominant goals in each situation (Babin, 1995). Most people attempt to exert self-control to avoid buying everything they desire (Faber and Vohs, 2004). Consumers believe that small package formats of hedonic, but not utilitarian, products help to regulate consumption, especially when their self-regulatory concerns are activated. In the hedonic settings of shopping malls, peers tend to consider immediate and impulsive purchases as hedonic rewards, while family members are more likely to think of the economic value of purchases as being more important. Parents accompanying teens doing apparel shopping tend to significantly regulate and restrict teens' purchases, while peers drive young consumers to spend more and make more impulsive purchases (Coelho do Vale and Zeelenberg, 2008; Yim et al, 2013).

A study by Steinmann et al (2019) examined the influence of product-related factors on selfregulation, such as product information on packaging, the size of the package, and the price of the product. In sachet consumption habits, results revealed that setting of dosage that facilitates

control over consumption is one of the top perceived reasons why consumers purchase sachet. Self-control and self-regulation are some of the non-price variables that affect the preferences of everyone (Sychangco et al, 2011; Patel and Bhatt, 2015). People may use the self-regulatory strategy of forming implementation intentions to make better consumer decisions and facilitate the translation of those decisions into action (Gollwitzer and Sheeran, 2009).

On the contrary, Veplanken and Sato (2011) said that consumer self-regulation is often difficult to exercise. There are many reasons why this is the case, such as the lack of insight in internal processes, information overload, the suggestive power of advertising, or ironic processes such as shopping resulting in decreased control.

3. RESEARCH METHOD

The research design is both descriptive and exploratory. The researchers further explored the presence of the sachet economy as well as the variables affecting consumer preferences on sachet products. A cross-sectional study with survey method is applied in this study because the outcome is measured based on the population (Setia, 2016). Hence, the study is quantitative in nature.

In previous studies, a survey method was also employed by Pornpitakpan et al. (2015), Pardesi et al. (2015), and Chittora and Awasthi (2020) to comprehend how sachets are widely perceived in different developing markets. Sohel et al. (2015) also administered a survey to know the performance of sachet products in Bangladesh.

A non-probability quota sampling is used by determining a specific number of individuals to select into the sample in each of several specific groups (LaMorte, 2016). The participants are classified as household members living in Quezon City. Following the criteria that one must be 1) consumer of sachet products of any kind, 2) 15 years old and above, and 3) resident of any area within Quezon City.

Primary data is used in this study. A survey questionnaire utilizing 6-point likert scale is made in Google Forms. It is distributed using different social media platforms to gather responses. Survey includes questions and statements on personal information, sachet consumption, household income, household size, affordability, marketing strategies, and consumers' self-regulation.

Questions on age, sex, where in Quezon City they reside, and employment status. Knowing the demographics of each respondent is vital to determine whether they are a good fit for representing the target population. These demographics are considered as factors affecting consumer preferences and purchasing decisions. Sachet consumption is the dependent variable to be used in this study. Respondents are asked how many food and non-food sachets they are consuming. Another measurement is how much of their budget is spent on sachet products per month. The monthly household income of each household is asked in the survey for the purpose of data gathering to know what income segments are the most accepting of sachet products. Household size is known to be correlated with consumption. Based on the previous studies, the family size has an effect with consumption because households want to allocate more consumption to periods when their size is bigger considering utility equals the household size (Bick and Choi, 2013;

Annunziata et al, 2019). This economic variable is determined by the producers which influences the consumer preferences. Respondents are asked whether they buy sachets based on the product price, whether they perceive sachets as affordable or not.

Companies' way of advertising has something to do with how consumers patronize the products. Their strategies are some of the factors that affect the preferences of each household. For this part of the survey, questions about what non-price factors drive households to purchase sachet products. A past work on sachet marketing revealed that consumers tend to purchase sachets for a controlled use (Patel and Bhatt, 2015). In this study, it will be used as a non-economic factor that influences consumers' sachet purchases.

The use of an online survey questionnaire is used to gather responses from Quezon City households regarding their sachet consumption. It is significant in determining how different households perceive sachets, as well as the economic and non-economic variables affecting their preferences. Based on the 2015 census, Quezon City has a population of 2,936,116 residents. In total, the number of respondents from Quezon City as used in this study is 299.

The online survey is conducted through Google Forms. One participant is limited to one entry only to make sure that there are no repetitive responses. The participation of each respondent is anonymous to protect the privacy of the participants. The information collated from the survey is used for academic purposes only. Moreover, answering the survey is completely voluntary. The decision whether to answer the survey or not is up to the participant.

$$\text{Sachet Consumption} = \beta_0 + \beta_1 \text{ Household income} - \beta_2 \text{ Household size} + \beta_3 \text{ Affordability} - \beta_4 \text{ Marketing strategies} + \beta_5 \text{ Self-regulation} + e$$

Y is the dependent variable represented by sachet consumption. The independent variables are the economic and non-economic factors such as household income, household size, affordability, marketing strategies, and self-regulation as represented by x while e is the margin of error.

This equation is used to estimate simultaneously the relationship between sachet consumption, the dependent variable and the independent variables namely household income, household size, affordability, marketing strategies, and self-regulation.

4. RESULTS AND DISCUSSION

Since this type of study is both exploratory and descriptive, it is further analyzed whether both economic and non-economic variables have a direct relationship on the existence of the sachet phenomenon or consumption. The researchers aimed to determine the economic and noneconomic variables that affect the purchasing practices and decisions of household consumers in Quezon City, Metro Manila. By a six-point scale, the value of 1 pertained as Strongly Disagree, and 6 as

Strongly Agree, were implemented to quantify the data. There were 299 participants from Quezon City who answered the questionnaire through an online survey. From the data collected, most of the respondents are 22 years old. It also showed that 64.88% of the respondents are female, and 35.12% are male. In terms of employment status, 182 are unemployed, 79 are employed, and 32 participants considered themselves self-employed. The average level of income based on the responses is PHP 69,751.

The dependent variable which is sachet consumption has a mean of 4.2965 and a standard deviation of 0.9197. Household income, the first independent variable, has a mean of 3.3592 and a standard deviation of 0.7191. Household size, as the second independent variable, has a mean of 2.9459 and a standard deviation of 0.6113. The affordability, as the third independent variable, has a mean of 3.9833 and a standard deviation of 0.7799. Marketing strategies, the fourth independent variable, has a mean of 4.3239 and a standard deviation of 1.0971. And lastly, self-regulation as the fifth independent variable, has a mean of 4.1097 and a standard deviation of 1.0572.

Table 1 shows the mean scores for the overall sample. Based on the results, most of the respondents agreed that the essential goods they usually purchase are food items under the category of ready-to-eat-food compared to non-food products (MS = 5.58). The results also showed that most of them prefer to buy sachet products in grocery stores rather than in supermarkets (MS = 4.95). In Table 2, the results show that most of the respondents are high-income earners (MS = 4.67), and they buy sachet products due to their daily needs (MS = 4.68) as compared to the considerations of their household income (MS = 3.56).

Table 3 presents the mean scores of their household size and sachet consumption. The average size of a household in Quezon City is 4 to 5 based on the responses collected (MS = 3.42), and they consume more sachets because of their household size. The results also show that members in a household prefer to use sachet products for both food and non-food (MS = 3.88).

Referring to Table 4, the affordability of sachet products has the highest score (MS = 5.24) and is helpful in controlling the household budget (MS = 4.95). Most of the respondents preferred to purchase sachet products monthly (MS = 4.19).

Table 5 shows that the packaging size and seal of sachet products are highly considered by consumers (MS = 4.66). The product brand was also involved when purchasing sachet products (MS = 4.56). In addition, the product advertising also attracts the consumers to buy more sachet products (MS = 4.28).

Table 6 shows another non-economic variable that affects consumers' preferences on sachet products. The results show that consumers tend to purchase sachets for a more regulated use (MS = 5.08) and self-control on usage (MS = 5.01).

The summary statistics show the central tendencies of each variable (Refer to Table 17 and 18 of the Appendix). Sachet consumption has a mean of 4.28 and a standard deviation of 0.92. Household income has a mean of 3.36 and a standard deviation of 0.72. Household size has a mean of 2.95 and a standard deviation of 0.61. Affordability has a mean of 3.98 and a standard deviation

of 0.78. On the other hand, for the non-economic variables, marketing strategies have a mean of 4.32 and a standard deviation of 1.10. Self-regulation has a mean of 4.11 and a standard deviation of 1.06. Testing against normal distribution, it can be said that the data is normally distributed.

Using the correlation test, it showed that there is a positive correlation between sachet consumption and household income, household size, affordability, marketing strategies, and self-regulation. In specific, there is a 59.12% high degree correlation between sachet consumption and household income whereas a moderate degree correlation of 39.58% between sachet consumption and household size. On sachet consumption and affordability, there is a high degree correlation of 57.96%. There is also 29.44%, a low degree of correlation, between sachet consumption and marketing strategies. Lastly, there is a high degree of correlation between sachet consumption and self-regulation.

Multiple regression was done to estimate the relationship between the dependent variable and independent variables. The p-values of household income, affordability, and self-regulation are less than the alpha or level of significance. This states that there is a significant relationship between sachet consumption and the independent variables. Household income, affordability, and self-regulation influences the sachet consumption of the households. On the other hand, the p-values of household size and marketing strategies are greater than the alpha or level of significance which means that there is no significant relationship between sachet consumption and these independent variables. With that, factors such as household size and marketing strategies do not greatly influence the sachet consumption. Referring to the r-squared or coefficient of correlation, 48.14% of the data fits the model. Furthermore, to test the heteroskedasticity of the model, White test is applied. The p-value resulted in 0.57 which is greater than the alpha or level of significance while the normality of residuals had a p-value of 0.53.

Variable	Mean	Median	Minimum	Maximum
Sachet Consumption	4.2965	4.3333	1.0000	6.0000
Household Income	3.3592	3.4000	2.0000	6.0000
Household Size	2.9459	3.0000	1.0000	6.0000
Affordability	3.9833	4.0000	1.0000	6.0000
Marketing Strategies	4.3239	4.3333	1.0000	6.0000

Self-regulation	4.1097	4.2000	1.0000	6.0000
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Table 1. Summary Statistics (Mean, Median, Minimum, Maximum)

Variable	Std. Dev.	C.V.	Skewness	Ex. Kurtosis
Sachet Consumption	0.91966	0.21405	-0.33372	-0.12628
Household Income	0.71911	0.21407	0.59668	1.8259
Household Size	0.61135	0.20752	0.85689	4.8072
Affordability	0.77986	0.19578	-0.54249	1.3004
Marketing Strategies	1.0971	0.25373	-0.47298	-0.040220
Self-regulation	1.0572	0.25724	-0.38815	-0.48599

Table 2. Summary Statistics (Standard Deviation, C.V., Skewness, Ex. Kurtosis)

Variable	5% Perc.	95% Perc.	IQ Range	Missing Obs.
Sachet Consumption	2.6667	5.6667	1.3333	0
Household Income	2.0000	4.4000	1.0000	0
Household Size	1.8333	3.6667	0.6667	0
Affordability	2.4000	5.2000	1.0000	0
Marketing Strategies	2.3333	6.0000	1.5000	0
Self-regulation	2.4000	5.6000	1.6000	0

Table 3. Summary Statistics (5% Perc, 95% Perc, IQ Range, Missing Observations)

Correlation Coefficients, using the observations 1-299 5% critical value (two-tailed) = 0.1135 for n = 299						
	Sachet Consumption	Household Income	Household Size	Affordability	Marketing Strategies	Selfregulation
Sachet Consumption	1.0000	0.5912	0.3958	0.5796	0.2944	0.5910
Household Income		1.0000	0.5445	0.5955	0.1793	0.5597
Household Size			1.0000	0.4188	0.1518	0.3775
Affordability				1.0000	0.4909	0.5856
Marketing Strategies					1.0000	0.3843
Selfregulation						1.0000

Table 4. Correlation Test

OLS, using observations 1-299 Dependent Variable: Sachet Consumption				
	Coefficient	Std. Error	T-ratio	P-value
const	0.796248	0.246708	3.227	0.0014 ***
Household Income	0.348219	0.0777929	4.476	1.09e-05 ***

Household Size	0.0661522	0.0763434	0.8665	0.3869
Affordability	0.262666	0.0735242	3.573	0.0004 ***
Marketing Strategies	0.0170939	0.0418912	0.4081	0.6835
Self-regulation	0.247097	0.0487929	5.064	7.26e-07 ***
Mean dependent variable	4.296544	S.D. dependent variable	0.919658	
Sum squared residual	130.7130	S.E. of regression	0.667922	
R-squared	0.481379	Adjusted rsquared	0.472529	
F (5,293)	54.39203	P-value (F)	7.67e-40	
Log-likelihood	-300.5604	Akaike criterion	613.1209	
Schwarz criterion	635.3235	Hannan-Quinn	622.0074	
Excluding the constant, p-value was highest for variable 5 (marketing strategies).				

Table 5. Regression Analysis

Code	Question	Mean	Standard Deviation
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SC-DV (1)	The essential goods in sachet form that I frequently buy are food items such as ready-to-eat food and drinks. (ex: 3-in-1 coffee, Chocolate drinks, Powdered Juice, Powdered Milk, Chips, etc.)	5.575250836	0.9287663323
SC-DV (2)	The essential goods in sachet form that I frequently buy are food items such as condiments. (ex: Soy Sauce, Vinegar, Cooking oil, etc.)	4.642140468	1.685617237
SC-DV (3)	The essential goods in sachet form that I frequently buy are non-food items such as hygiene products. (ex: Shampoo, Soap, Conditioner, Toothpaste, etc.)	4.471571906	1.81391745
SC-DV (4)	The essential goods in sachet form that I frequently buy are medicine or health products. (ex: vitamins, pills, etc.)	3.140468227	1.971355557
SC-DV (5)	I always buy sachet products in sari-sari stores.	3.003344482	1.799512103
SC-DV (6)	I always buy sachet products in grocery stores or supermarkets.	4.946488294	1.314789151

Table 6. Sachet Consumption

Code	Question	Mean	Standard Deviation
HI-IV1 (1)	The income of our household is below minimum wage. (The minimum wage rate is Php 500 - 537 daily based on DOLE's National Wages Productivity Commission.)	1.4515050 17	1.16729312 1

HI-IV1 (2)	The income of our household is at the average of minimum wage. (The minimum wage rate is Php 500 - 537 daily based on DOLE's National Wages Productivity Commission.)	2.4381270 9	2.00302234
HI-IV1 (3)	The income of our household is above minimum wage. (The minimum wage rate is Php 500 - 537 daily based on DOLE's National Wages Productivity Commission.)	4.6688963 21	1.93364830 2
HI-IV1 (4)	I buy sachet products because of our household income.	3.5618729 1	1.88209984 8
HI-IV1 (5)	I buy sachet products because of my daily needs.	4.6755852 84	1.43017783 3

Table 7. Household Income

Code	Question	Mean	Standard Deviation
HS-IV2 (1)	In our household, every member prefers to use sachets for food and non-food products.	3.8795986 62	1.59605025 8
HS-IV2 (2)	There are 2-3 members in our household.	2.4280936 45	2.18018134 1
HS-IV2 (3)	There are 4-5 members in our household.	3.4247491 64	2.45838736 1
HS-IV2 (4)	There are more than 5 members in our household.	2.1538461 54	2.07463022 2
HS-IV2 (5)	We consume more sachet products because of the large size of our household.	3.1438127 09	1.89597007 4
HS-IV2 (6)	We consume less because of the small size of our household.	2.6454849 5	1.84011542 2

Table 8. Household Size

Code	Question	Mean	Standard Deviation
PF-IV3 (1)	I buy sachet products because of their affordability.	5.2408026 76	1.11827739
PF-IV3 (2)	Sachet products are helpful in controlling our household budget.	4.9531772 58	1.28666949 7
PF-IV3 (3)	I buy sachet products on a weekly basis.	2.2876254 18	1.58565741 7
PF-IV3 (4)	I buy sachet products on a daily basis.	3.2408026 76	1.90958568 1
PF-IV3 (5)	I buy sachet products on a monthly basis.	4.1939799 33	1.93757369 5

Table 9. Affordability

Code	Question	Mean	Standard Deviation
MS-IV4 (1)	Product advertising on television, social media, and others attract me to purchase more sachet products.	4.2775919 73	1.57365033 9
MS-IV4 (2)	The packaging size and seal of sachet products are the reasons why I purchase sachet products.	4.6622073 58	1.39856463 2
MS-IV4 (3)	The design of the sachet product plays a role in my decision-making to purchase it.	3.8628762 54	1.63166848 2
MS-IV4 (4)	I am influenced by the product brand when purchasing sachet products.	4.5685618 73	1.46244311 7
MS-IV4 (5)	I purchase sachet products for trial use.	4.2173913 04	1.54666730 4

MS-IV4 (6)	I purchase sachet products because of its wide range and large number of brands to choose from.	4.3545150 5	1.57414236 2
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Table 10. Marketing Strategies

Code	Question	Mean	Standard Deviation
SR-IV5 (1)	I purchase products for a more regulated use.	5.0836120 4	1.13354835 6
SR-IV5 (2)	On a regular basis, I prefer buying sachet products over regular-sized ones.	3.8695652 17	1.74355288 3
SR-IV5 (3)	I apply self-control when purchasing and consuming products.	5.0133779 26	1.18710420 9
SR-IV5 (4)	I buy sachet products based on my habit.	3.8461538 46	1.88327420 6
SR-IV5 (5)	I consider myself as an impulsive buyer of sachet products.	2.7357859 53	1.69496598 8

Table 11. Self-regulation Based on the data obtained by the researchers through an online survey questionnaire, it shows the existence of a positive correlation between sachet consumption and the economic and noneconomic variables that affect the consumer's preferences. The result in Table 1, 2, 3, 4, 5, and 6, suggest that the consumers would highly prefer to purchase and consume sachet products due to specific reasons such as accessibility, affordability, a wide variety of brands to choose from, availability of daily necessities produced in a more convenient size, the ability of a consumer to control their budget and apply self-regulation on product consumption. Due to the increase of sachet consumption in the economy, it is proven that high-income earners also prefer to purchase sachet products despite their income difference to BOP consumers.

The existence of sachets, which refers to as trial packs, has emerged ingenious and innovative ways to increase market penetration at the bottom of the pyramid of developing markets. In addition, Pardesi et al. (2015) stated that sachets are efforts made by marketers to make goods available to those who could not afford the regular size of products. In addition, it was found out by Bennet et al (2019) that low-income shoppers highlighted the importance of “buying on sale” and “stocking up” and noted that low-income participants spent a lot of their time and took a lot of pride in following the cycles of supermarket price promotions. In contrast to the results of this study which

shows that most consumers from the urban area, specifically in Quezon City, are highly influenced by sachet consumption in terms of their purchasing habits or preferences despite the high household income which most of the consumers attain. Therefore, it also contradicts the study of Jaiswal A.K. (2007), which states an emphasis on the presence of sachet packs, which were not fully supported by consumers living in urban areas. Budget constraints are evident to the lifestyle of low-income consumers, however, it can be concluded that consumers do not purchase products due to their lower price, instead, they consider the value of a product through a good deal. Moreover, a study conducted by Chaudhury (2010) and Young et al. (2021) highlights that ready-to-eat foods gained prominence in recent times due to the increasing working population with higher disposable incomes. Overall, it can be concluded in this study that sachet consumption and household income have an indirect relationship as consumers continue to purchase sachet products because of their preference and habit disregarding the amount of their household income.

In terms of affordability of these micropacks or sachets, since many consumers are paid on a daily rather than weekly basis and spend their income immediately, they make instantaneous choices between product categories rather than planning purchases every week. According to C. Samuel Craig and Susan P. Douglas (2011), this requires affordable products, often single-use sizes, and price points that reflect the number of discretionary income consumers typically carry. In addition, several authors sought into the relationship between consumers' perception and the price of sachet products and discovered that that price or affordability is the most dominant factor on why they continue to buy sachets (Pardesi et al, 2015; Rachmawati and Muflikhati, 2017; Awasthi and Chittora, 2020). This concludes that consumers are well-aware of the price benefits of sachet products, therefore, sachet consumption and affordability have a significant or positive relationship in consumers' purchasing habits and preferences.

The relationship between consumption and household size believes that in the consumption of household products, the household size must be considered and analyzed, according to the study of Annunziata et al. (2019). Like the studies by Wardrop et al. (2017), Kiran and Dhawan (2015), it was discovered that by using size to estimate sachets and liters of what one person can consume, results of previous works found that family size has a significant positive impact on the consumption expenditure. Furthermore, most studies show that the household size effect indicates the change in the allocation of total expenditure among various commodity groups when family size increases. An increase in family size requires an additional expenditure on various goods on account of the increased liability of absolute necessity (Musgrove, 1980; Lanjouw and Ravallion, 1995; Bawa and Ghosh, 1999; Shamim and Ahmad, 2007). However, based on the findings in this study, it was found that sachet consumption has an indirect relationship to household size, as Filipino consumers continue to buy and use micropacks or sachets regardless of the size of their families.

It is an undeniable fact that sachets have created an economic impact on the lifestyle and consumers' purchasing habits of Filipinos. Along with the rise of sari-sari and convenience stores, these mini-packets have become essential to all the consumers due to their quality, availability, and variety of brands to choose from. With regards to its marketing strategies, the findings of Deliya (2012) and Oodith (2018) emphasized that consumers in all income segments look into the

physical appearance of the sachets, aside from their affordability. Packaging criteria of sachets must be considered in terms of storage, the convenience of purchase, prices of different package sizes, and reusability of packaging, which are related to consumers' purchasing decisions. Similar to the findings of this study, where Filipino consumers would highly prefer and consider purchasing sachet products due to their convenience in terms of packaging and size. Furthermore, consumers spent more on the sachets that are fast-moving consumer goods (FMCG) because daily used products are relevant to more advertisements as mentioned by Rasoolet et al. (2012). With that, their consumption of sachet products increased. Similarly, Bashir and Malik (2020) explained that because consumers want novel products in terms of quality and quantity, advertisers and marketers designed novel ads to gain more attention. Therefore, effective marketing strategies such as advertising and convenient packaging have a positive impact on consumers' purchasing preferences on sachet products.

When it comes to sachet consumption and self-regulation, it examined the influence of product-related factors on self-regulation, such as product information on packaging, the size of the package, and the price of the product. According to the findings of Steinmann et al. (2019), in sachet consumption habits, results revealed that setting of dosage that facilitates control over consumption is one of the top perceived reasons why consumers purchase sachet. In addition, it was indicated in the findings of Sy-changco et al. (2011), and Patel and Bhatt (2015) that self-control and self-regulation are some of the non-price variables that affect the preferences of individuals. On the contrary, Veplanken and Sato (2011) said that consumer self-regulation is often difficult to exercise due to certain reasons, such as the lack of insight in internal processes, information overload, the suggestive power of advertising, or ironic processes such as shopping resulting in decreased control. However, based on the findings of this study, self-regulation was implemented as the ability of a consumer to control the quantity or volume of their consumption towards purchasing sachet products. With the increase in sachet consumption, it is presumed that Filipino consumers prefer to have self-regulation and control over their consumption of essential products or daily necessities.

5. CONCLUSIONS AND POLICY IMPLICATIONS

This exploratory and descriptive research determined the economic and non-economic variables affecting the preferences of Quezon City households towards sachet products. Being quantitative in nature, the relationship between sachet consumption and household income, household size, affordability, marketing strategies, and self-regulation is tested in this study. Similar to the works of Pornpitakpan et al. (2015), Pardesi et al. (2015), Sohel et al. (2015), and Chittora and Awasthi (2020), a survey was administered on Google Forms and disseminated through different social media platforms. A non-probability sampling is applied and Slovin's formula is used to come up with the total number of respondents which is 299 participants. Questions about the demographics or personal information of the respondents contains age, sex, household income, household size, and sachet products consumed in a span of one month. The second part of the questionnaire is about the sachet consumption habits of the households on food and non-food items. Following the sachet consumption is the first independent variable which is household income. The respondents are asked about their income and its relevance to purchasing sachet products. The third part

includes household size and how frequent they consume sachets. Price, as an economic factor, is the fourth part of the tool where it is asked if affordability is a consideration of their sachet purchase. The next two parts of the survey include the non-economic variables such as marketing strategies and consumers' self-regulation in using sachet products. Respondents are asked how these affect their decisions in purchasing sachets. The responses gathered were run in Microsoft Excel and Gretl. For initial checking, both summary statistics and output were checked in both softwares to get the central tendencies.

The dependent variable, sachet consumption, has a mean of 4.2965. The economic variables are household income with a mean of 3.3592, household size with a mean of 2.9459, and affordability with a mean of 3.9833. Meanwhile, the non-economic variables are marketing strategies with a mean of 4.3239 and self-regulation with a mean of 4.1097. The correlation of each independent variable to the dependent variable is also tested and it showed that there is a positive correlation between sachet consumption and all independent variables. Following the initial checking is the run for multiple regression in Gretl to estimate the relationships between the dependent and independent variables. The p-values defined the significance and insignificance of each relationship. The first null hypothesis is rejected in favor of the alternative hypothesis which means that there is a significant relationship between sachet consumption and household income. High income and low-income earners alike still purchase sachet products based on their responses. However, the null hypothesis for statement 2 is accepted because results showed that there is no significant relationship between sachet consumption and household size. The number of household members does not necessarily equate to less sachet consumption. No matter how large or small the household size is, consumers continuously purchase sachet products. For the third statement, it is revealed that there is a significant relationship between sachet consumption and affordability, leading to the rejection of the null hypothesis. The price of sachet products drives households' preferences in purchasing and consuming sachets. Like household size, the fourth null hypothesis is also accepted because of the insignificant relationship between marketing strategies and sachet consumption. Although effective at times, results in this study showed that there is no significant relationship between the two. Lastly, the fifth hypothesis statement is rejected because there is a significant relationship between sachet consumption and self-regulation. Households purchase sachet products for a more controlled usage of products. As their level of awareness on selfregulation increases, they tend to purchase more sachet products to control the quantity or volume of their consumption.

Based on the regression analysis of the relationship of sachet consumption with household income, household size, affordability, marketing strategies, and self-regulation, the researchers have come up with the following conclusions based on the hypotheses that were tested; (1) The variables sachet consumption and household income have a positive relationship. Researchers concluded that whether the household income is below, average, and above minimum to the minimum wage rate based on DOLE's National Wages Productivity Commission, sachet consumption and purchase are still at great height. Consumers from different walks of life in Quezon City preferred using and buying products offered in sachets with the following reasons: accessible, affordable, trial use, many varieties, easy to use, and easy to dispose of. (2) There is a positive relationship

with variables sachet consumption and household size. Researchers concluded that not because a household has a large number of members and they need to consume a great amount of goods, it is not necessarily that they will consume less products offered in sachets. And not because there is a small number of members in a household, it will automatically result in a more consumption of sachets. The reasons behind different purchasing behavior are as follows: different product preferences for each household member, buying products individually, and controlling household budgets because products offered in bottles or products offered in a great amount are quite expensive. (3) Variables such as sachet consumption and affordability have a positive relationship. The researchers came to the conclusion that the main reason for consumers' behavior for purchasing sachets is affected by price. In “tingi” culture, Filipinos have a mindset that they can save more money if they purchase products offered in small amounts. Therefore, we conclude that residents in Quezon City would like to save money by purchasing products in sachets whether the household income is below, average, and above minimum to the minimum wage rate based on DOLE’s National Wages Productivity Commission. (4) The variables sachet consumption and marketing strategies have a positive relationship. The researchers concluded that product advertising, endorsers and influencers, and other marketing strategies to boost the sales of companies offering products in sachets are effective. (5) There is a positive relationship between sachet consumption and self-regulation. Affordability is not the only reason why consumers are still patronizing products in sachets, because one of the non-economic factors which is selfregulation are also affecting consumers behavior towards purchasing sachets. As they rationally think of the regulated use of products, they opt to consume sachets more for a controlled use. Residents in Quezon City can control what to buy and mindful of not buying too much and using what is just enough for the household.

This study aimed to provide knowledge and fill the gap in research about the sachet phenomenon that made a massive economic impact and influenced the ‘tingi’ culture amongst Filipinos. Based on the findings of this study, it is evident that sachet consumption is highly influenced by consumers’ preferences and purchasing habits. Furthermore, sachets have developed and progressed their way in the economy due to their affordability, availability, and convenience which they provide to consumers with low, middle, and high income. With that, this study can benefit future researchers that will choose a topic related to sachets and consumer preferences. It can also be beneficial for FMCG companies and other businesses that will take advantage of the growth of sachet consumption in countries that have high utilization of sachets or mini packets of plastic. Furthermore, it also provides awareness about the socio-economic issues that are related to sachet consumption, such as unemployment, overpopulation, and the lifestyle of the Filipinos. As the population increases and most Filipinos are currently unemployed during the pandemic, it is inevitable for them to rely on sachets and prioritize the quantity over the quality of their daily necessities. As the ‘tingi’ culture was established in the country, Filipinos were able to adapt and change their lifestyle by purchasing their daily necessities and other essentials in a more convenient way. Based on the gathered data of the researchers, this study will be able to provide efficient and evident information about the advantages of sachet products in the economy. As the results of the findings show, more Filipinos can control their household income, purchase their daily necessities and essentials, and develop self-regulation in terms of consumption, despite the number of

unemployed people and low-income earners in the economy which leads to the beneficial effect of sachet products regarding the socioeconomic issues that are stated in this topic. In relevance to consumer theory, individuals have the right to choose from the options of goods and services that are available, which are bound by several factors including but not limited to budget constraints, supply, and personal preferences. With this, people will make rational decisions accordingly. The economic and non-economic variables in the study demonstrated a relationship to the decision of people residing in Quezon City to consume sachet products based on the factors mentioned.

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