Setting the Sweet Spot: Price Determination for Local Chocolates in the Philippines

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ABSTRACT :
A research study was conducted study to assess consumer price sensitivity and determine the optimal pricing strategy of locally produced chocolate in Bicol region, Philippines. Selected respondents were interviewed composed of cacao farmers, processors/entrepreneurs and chocolate consumers using purposive random sampling procedure. They were from different location and provinces who have knowledge on cacao production and consumption. Data were gathered using survey questionnaire and key informant interview (KII) based on Van Westendorp Price Sensitivity Meter tool. Result of the study showed that the acceptable price range of the locally produced chocolate is between the point of marginal cheapness (PMC) at Php 1.20 per gram (or $2.16/100grams) and point of marginal expensiveness (PME) at Php 2.00 per gram (or $3.60/100grams). The values outside these range will result in declining number of potential buyers because the locally produced chocolate is either too cheap or too expensive. Furthermore, the optimal price where respondents feel the locally produced chocolate is not too expensive and will not question the quality of the product is Php 1.60 per gram (or $2.88/100grams). This is the best price that does not only satisfy the demand of chocolate customers for affordable price but also maximize profit of the producers. This result will provide valuable insights on the potential marketability of locally produced chocolates, make informed pricing decisions, assess price competition with the leading and known brands of chocolates and will allow local chocolate entrepreneurs and businessmen to set prices that optimize profitability while ensuring consumer acceptance and satisfaction. Likewise, this will provide a holistic picture for the success of the local chocolate industry and make it globally competitive in the future.

Keywords: optimal price, price sensitivity, van Westendorp, willingness to pay

1. INTRODUCTION

Cacao is considered as a premium crop with high investment opportunities in the Philippines. As such, the Cacao Roadmap has been crafted to serve as guide towards the development of the cacao industry in the country. In this roadmap, cacao stakeholders envision a competitive and sustainable Philippine cacao industry by year 2025. The goal is to produce 50,000 metric tons of fermented beans by the year 2025 for the export and domestic markets through a 40% annual increase in production [1].

Indeed, this roadmap is very important since cacao is the main ingredient for chocolate production. The demand for chocolate has grown rapidly in the last decade, encouraging countries to expand and improve cocoa bean production. Seeing opportunity in these trends

as well as recognizing climatic advantages, the Philippine government is increasing its presence in this sector [2].

It was reported in the Philippine industry forum that Filipinos consume 50,000 metric tons of Cacao products but the local supply is only 10,000-15,000 metric tons. It indicates demand for cacao in both domestic and export markets. The Philippine government has pledged to increase production and aims to produce 100,000 MT of cacao, a move that will strategically position the country as a major regional player in the cacao industry [3]. Developing cacao farms and boosting local chocolate products will address the demand of chocolates in the country. Hence, production of locally-produced cacao products will not only expand opportunities for livelihood but an avenue for a profitable market.

Humans have innate food preferences for sweet foods and foods with creamy textures or a "mouth feel" that is high in fat. Food tastes better when it has sugar, and feels better when it has fat. These two tastes are both satisfied by chocolate, which is why the demand for chocolate is high [4]. In fact, the worldwide chocolate market is currently worth USD 127.9 billion. According to projections, the global chocolate market will keep expanding every year by billions of dollars [5]. The world chocolate production is dominated by European countries such as Germany, Belgium, Italy, and Poland producing 40% of the world's chocolate exports [6].

While local chocolates are slowly gaining attention and market at the global level, there is still a need to elevate the local chocolate industry to produce world-class quality chocolates. New, improved chocolate products need to be out in the market and consumers' feedback is necessary to ensure its marketability. More so, it is imperative to determine consumer's preference and know how much the consumers are willing to pay for these products. Hence, conducting this price determination will serve as a guide to set the right price, implement it more effectively and hopefully, optimize prices across customer segments for locally-produced chocolate.

2. REVIEW OF RELATED LITERATURE

Theobrama cacao, the scientific name of cacao translates as "food of the Gods" in Greek. It grows for its edible seeds known as cocoa beans which are used as cocoa powder, cocoa butter, and chocolate. Cacao is classified as an evergreen tree from the family of Malvaceae. Cacao is native to lowland rainforests of the Amazon, western Africa, and tropical Asia [7]. Cacao seeds are gathered from the fruit which are processed to make chocolates. The word chocolate can be traced from Aztec Nahuatl word "xocoatl" which means bitter drink brewed from cacao beans [8]. Here in the Philippines, cacao seeds are used to make cacao tablea, a product roasting and grinding cocoa beans. Tablea is being used in in baking, special desserts, and brewing hot chocolate. It is popularly used as main ingredient in Filipino delicacies, snacks, pastries, and ice cream [9].

Researchers from Central Bicol State University of Agriculture (CBSUA) in collaboration with the Flemish institution (Universiteit Gent, Belgium) developed the CBSUA tablea or chocolate. The present study determines the willingness to pay of the consumers to the locally-produced chocolate. Setting price of the chocolate is one of the important determinants of attracting consumers to purchase the product. Rising price level of commodities tends to repel potential buyers while low prices might not make enough profit. It is important that businesses are aware of how much consumers are willing to pay for a certain product to maximize profit and consumer satisfaction at the same time. In one of the research studies, conducting surveys to potential buyers and asking direct questions seems ineffective because respondents intentionally answer with a lower price than the actual price

they are willing to pay in order to persuade the sellers to lower their price so that they can purchase it for less [10]. The willingness to pay appeared lower than the retail price of the products [11]). Hence, product pricing based on direct questions is less valid due to the purposeful answer with lower price.

Another research study posited that there are factors that affect consumers' willingness to pay for a certain product [12]. Consumer satisfaction depends on the price, performance, product characteristics and quality standards which all influence consumption behavior. There is a higher possibility of purchasing the product if the target buyers are well aware of the use and benefits of the goods. For instance, the willingness to pay additional price for green products will increase through environmental awareness programs. Also, consumers' willingness to pay for food products is affected by the consideration of the ethical and sustainable attributes of products. Promotion of what is perceived important by the consumers will significantly boost sales [13].

The willingness to pay or sometimes abbreviated as WTP, is the price a customer is willing to pay for a commodity [14]. The range of price a customer is willing to pay varies from diverse customers and rise and fall due to some factors such as cultural background of a customer that significantly affects their willingness to pay. Moreover, customers are willing to pay more when they have an urgent need for the product to satisfy their desire and ignore if not an urgent need. However, willingness to pay may decline because of the strong competition in the market especially when well-known brands present affordable products.

A research study also revealed that the label of a product also influences the consumers' willingness to pay [15]. For instance, labeling genetically modified products negatively affects consumer behavior resulting in less interest in the product. This resulted in forced implementation of food-labeling policies in many countries because evidence showed that consumers are willing to pay higher for non-genetically modified items. It is proven that the label of a product influences the decision of consumers and providing information on the ingredient and contents of the product allows consumers to select which are worthy to purchase [16].

Similar findings also revealed that ethical considerations were taken into account that influence consumers' behavior from purchasing organic products [17]. It showed that the willingness to pay for a product depends on the consumers' motivation and is affected by the labels of the product. Likewise, a research study presented that consumers' attention is captured by Fair Trade labels to the point that they are willing to pay higher if chocolate products are produced under good labor conditions [18]. Empirical evidence suggests that consumers are concerned with the ethical attributes of the food products they purchase.

Aside from the product label, there are other factors that influence consumers' willingness to pay. A research finding showed that the benefits of a product have a significant relationship with the consumers' willingness to pay [19]. The attitude of consumers depends on the convenience of purchasing and the availability of the products in the market. Potential buyers of local chocolate are willing to purchase the product if they are well aware of the health benefits of taking chocolate. Further, collectivism was found to influence consumers' behavior, collaborative consumption impact both individuals and businesses [20]. Consumers tend to purchase a product as a result of peer recommendations, increasing trust and instilling a positive impression towards the product. In a related study the study, it is found that there are four factors influencing chocolate consumption [21]. These include personal references, chocolate product attributes, socio-demographic factors, and economic attributes. Further, among other chocolate attributes, packaging and portion size has a significant impact on consumers' willingness to purchase.

Considering all the factors that influence consumers' behavior, it is advised that the seller of a product do not just simply put a price that they desire to generate profit. In 1976, a Dutch economist named Peter van Westendorp developed the Van Westendorp survey questions to determine the acceptable price range for consumers [22]. These questions are: at what price do you think the product is priced so low that it makes you question its quality; at what price do you think the product is a bargain; at what price do you think the product begins to seem expensive; and at what price do you think the product is too expensive. Plotting the data in the graph will provide the range of acceptable prices [23].

Van Westendorp price sensitivity meter allows determination of acceptable price range and the output provide the point of marginal cheapness, point of marginal expensiveness, optimal price point, and indifference price point [24]. The price expectations are easily given by the respondents and the plotted chart will be easier to communicate the results of marketability of the local chocolate. One research study used the Van Westendorp price sensitivity model to determine the price sensitivity of the consumers wherein they were able to obtain the optimal price point, the range of acceptable price, and indifference price [25].

As pricing is a key element of the marketing, it is necessary to consider consumers' perceptions when making pricing decisions in modern marketing to ensure customers are satisfied with the price of the products they purchase. Van Westendorp price sensitivity meter helps marketers to determine the optimum price point should be assigned to a product [26]. There are pricing techniques that businesses can use such as conjoint analysis and demand curve analysis [27]. Some of the other pricing objectives and strategies are competitive pricing, value-based pricing, skimming and penetration pricing, profit-oriented pricing, competitor-based pricing, market penetration and skimming, and product valuation strategy. However, pricing should not only focus on computing costs and achieving profit because pricing policy contributes to making product appealing [28].

Pricing should be based in accordance with the opinion of the consumers and failing to do so would cost producers lost potential buyers and destroy the brand image [29]. The use of Van Westendorp pricing model gives the ideal range of pricing wherein the intersection of number of people who think that a product is too cheap and too expensive gives the Optimal Price Point (OPP), a point that can be found between the Point of Marginal Cheapness (PMC) and Point of Marginal Expensiveness (PME) [10]. Optimal Price Point (OPP) is the price point where customers are satisfied and the seller's profit is maximized. Thus, Van Westendorp price sensitivity model identifies the acceptable price range and optimal price points and is based on consumers' perspective [29].

3. METHODOLOGY

A total of 65 respondents were interviewed for this study. The respondents were chosen using purposive random sampling procedures. Selected respondents were allowed to participate regardless of their location in Bicol region, Philippines as long as they have knowledge on cacao production and consumption. Data were gathered through the use of questionnaires and Key Informant Interview (KII) based on Van Westendorp Price Sensitivity Meter. Data analysis involves frequency distribution and percentages which are presented using tables and graphs.

4. RESULTS AND DISCUSSION

4.1 Respondent's Profile

A total of 65 respondents participated in this research study. In terms of gender, 40% are males and a higher percentage of 60% are females (Figure 1). By category, 40% are processors, 28% are professionals and/or employees, with farmers and students having a percentage of 18% and 14%, respectively. Most of the respondents' age cluster within the range of 21 to 30 years old (29%), followed by 41 to 50 years old (23%) and 51 to 60 years old (23%). A small percentage of 15% are above 60 years old and 9% belongs to 31 to 40 years old. On educational attainment, 78% are into college level. The remaining half of the respondents are either into primary level (2%), vocational (5%), post graduate (8%) and secondary level (8%). In terms of civil status, almost half of the respondents are married (45%) with the remaining half single (43%) and a small group of 12% are widow.

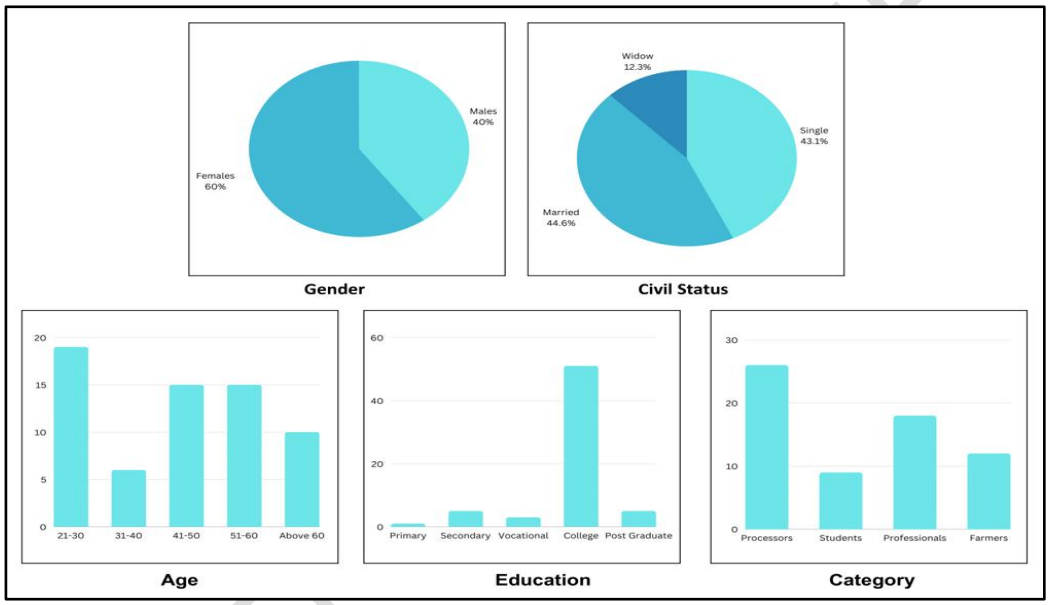

Fig 1. Socio-demographic Profile of the Respondents

4.2 The CBSUA Local Chocolate

The local chocolate was developed by university faculty-researchers under the project titled "Strengthening Entrepreneurial and Networking Capacity of Cocoa Farming and Processing Households in Bicol Region, Philippines". This project is jointly implemented by the Flemish institution (Universiteit Gent, Belgium) and the Central Bicol State University of Agriculture (CBSUA), Philippines. South Initiative (SI) projects are departmental projects which focus on specific development problems. Towards this end, various attributes and qualities of the chocolate were determined from target clients. These are levels of satisfaction, in terms of taste, form/shape and purity (% of cacao beans), preferred market outlets, promotional media and possible barriers and challenges that hinder clients from buying the chocolate. On top of this, the acceptable price for the local chocolate was also determined.

Table 1 shows the frequency distribution of the number of respondents who believe that a certain price level is too cheap, cheap, expensive, or too expensive. Thirty (30) unique

values ranging from Php 0.10 per gram to Php 10.00 per gram were obtained from the respondents. Individual responses were tallied and presented in the table below.

Table 1. Frequency Distribution of Price Estimates for Local Chocolate

Values(Php per gram)	**Too Cheap**	**Cheap**	**Expensive**	**Too Expensive**
0.10	4	0	0	0
0.12	1	0	0	0
0.20	1	0	0	0
0.25	2	0	0	0
0.30	7	2	0	0
0.35	0	1	0	0
0.50	19	8	1	0
0.55	1	0	0	0
0.60	2	3	0	0
0.70	0	1	0	0
0.75	1	1	0	1
0.80	1	1	2	0
0.99	0	1	0	0
1.00	9	11	12	2
1.20	0	3	2	1
1.30	0	0	1	0
1.50	5	5	7	8
1.60	0	0	0	1
1.75	1	0	0	0
1.80	0	2	0	1
1.85	0	0	1	0
2.00	9	15	9	10
2.50	0	0	6	6
3.00	0	5	10	9
3.40	0	0	1	0
3.50	0	2	0	4
4.00	2	0	4	7
5.00	0	4	5	5
6.00	0	0	3	4
7.00	0	0	0	3
8.00	0	0	1	1
10.00	0	0	0	2
Total	**65**	**65**	**65**	**65**

Table 2 shows the cumulative values of percentage of the respondents who thinks that a certain price level is too cheap, cheap, expensive, or too expensive. These data were used in making a graph to determine the acceptable price range of the local chocolate. The data in this table were plotted in the graph below:

Table 2. Cumulative Values of Responses

Values	**Too Cheap**	**Cheap**	**Expensive**	**Too Expensive**
0.10	100%	100%	0%	0%
0.12	94%	100%	0%	0%
0.20	92%	100%	0%	0%
0.25	91%	100%	0%	0%

0.30	88%	100%	0%	0%
0.35	77%	97%	0%	0%
0.50	77%	95%	2%	0%
0.55	48%	83%	2%	0%
0.60	46%	83%	2%	0%
0.70	43%	78%	2%	0%
0.75	43%	77%	2%	2%
0.80	42%	75%	5%	2%
0.99	40%	74%	5%	2%
1.00	40%	72%	23%	5%
1.20	26%	55%	26%	6%
1.30	26%	51%	28%	6%
1.50	26%	51%	38%	18%
1.60	18%	43%	38%	20%
1.75	18%	43%	38%	20%
1.80	17%	43%	38%	22%
1.85	17%	40%	40%	22%
2.00	17%	40%	54%	37%
2.50	3%	17%	63%	46%
3.00	3%	17%	78%	60%
3.40	3%	9%	80%	60%
3.50	3%	9%	80%	66%
4.00	3%	6%	86%	77%
5.00	0%	6%	94%	85%
6.00	0%	0%	98%	91%
7.00	0%	0%	98%	95%
8.00	0%	0%	100%	97%
10.00	0%	0%	100%	100%

Figure 2 shows the graph using the Van Westendorp Price Sensitivity meter. This is based on the cumulative responses of the respondents. The X-axis shows the price range obtained from the survey starting at Php 0.10 per gram and ends at Php 10.00per gram. The Y-axis shows the percentage of respondents thinking if it is cheap or expensive. The points from A to B provide the acceptable price range for the local chocolate where A is the point of marginal cheapness (PMC) and B is the point of marginal expensiveness (PME). Any points between A to B is the range a consumer is willing to spend and is reasonable to charge for a purchase of a product [31]. Using the Van Westendorp Price Sensitivity Meter, it is found out that the acceptable price range of the local chocolate produced in the university is between the point of marginal cheapness (PMC) at Php 1.20 per gram and point of marginal expensiveness (PME) at Php 2.00 per gram. The values outside these range will result in declining number of potential buyers because the product is too cheap or too expensive [10].

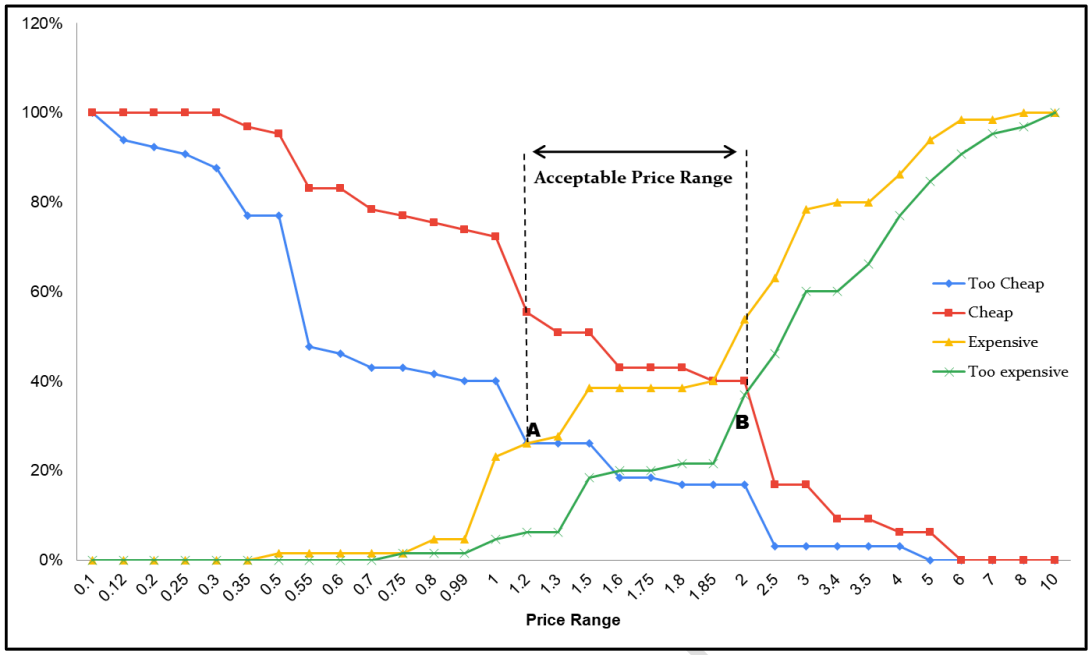

Fig. 2. Price Sensitivity Graph using Van Westendorp Model

The point of intersection of the values of cheap and expensive gives the indifference price point (IPP) which is equal to Php 1.85 per gram, point where the customers are indifferent to the price (Figure 3). This intersection of curves means that number of respondents who think that the product is bargain and becoming too expensive is equal.

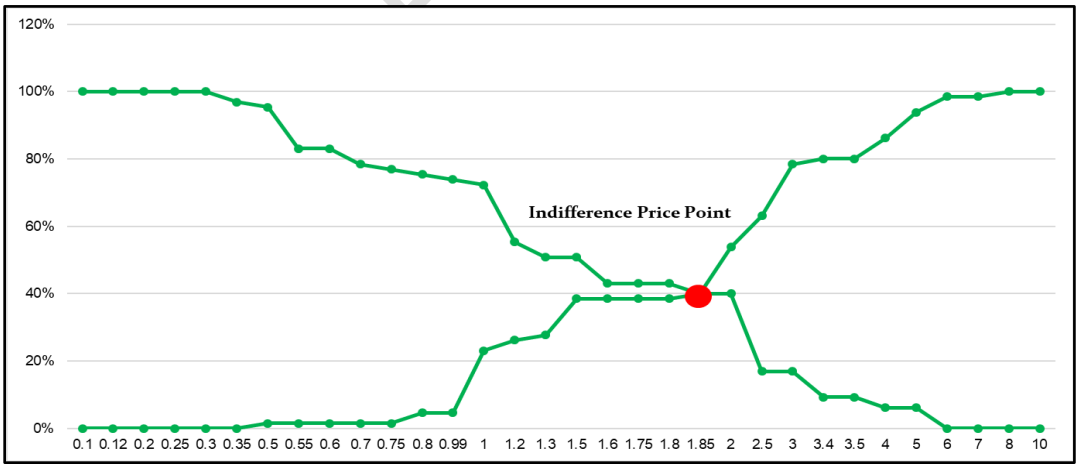

Fig. 3. Indifference Price Point for Local Chocolate

The use of Van Westendorp price sensitivity meter also gives the optimal price point wherein the intersection of curve means that number of people who think that the product is too cheap and too expensive is equal. This value is where customers feel the local chocolate is not too expensive and will not question the quality of the product [22]. Plotting the cumulative values of too cheap and too expensive gives the value of the optimal price point which is equal to Php 1.60 per gram. This value does not only satisfy the demand of customers for affordable price but also maximize profit of the producers [31].

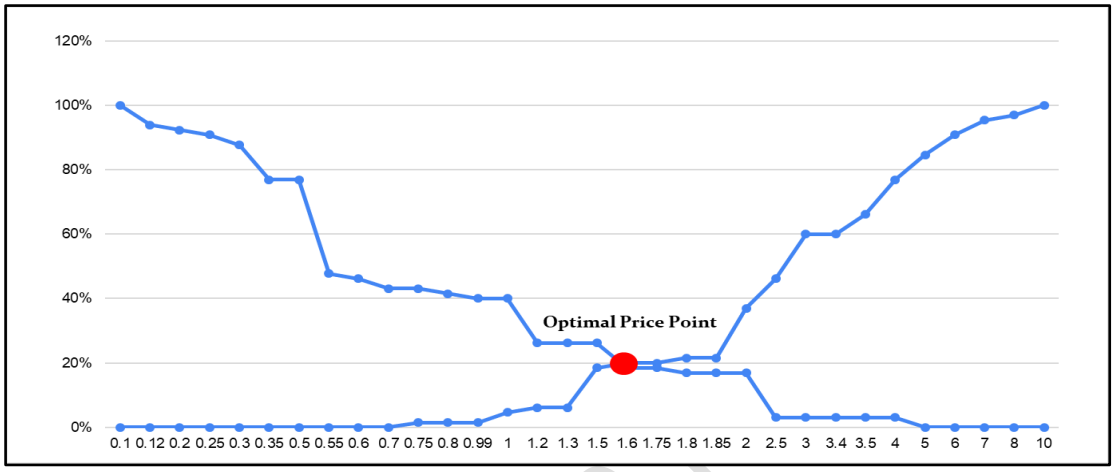

Fig.4. Optimal Price Point for Local Chocolate

Table 3 shows the summary of various prices for the local chocolate. At the point of marginal cheapness (PMC), consumers perceive the local chocolate as neither cheap nor expensive. This price range suggests that the product is reasonably priced.At the point of marginal expensiveness (PME), consumers of the local chocolate perceive it as crossing the threshold from being reasonably priced to being too expensive.Typically, the “acceptable price range” is between the PMC and PME. Prices below the PMC might risk undermining perceived product quality, while prices above the PME might deter potential customers due to perceived high cost. Identifying the indifference price point (IPP) is also important since this is the point where customers don’t really care if the product is cheaper or more expensive.

The optimal price point is the best price for the local chocolate. This is the sweet spot where customers of the local chocolate are willing to pay a good price for what they are getting. Identifying these four (4) important points can help entrepreneurs and cacao processors and businessmen decide on the best price to set for their products.

Table 3. Price Range for the Local Chocolate

	Expensive	**Too Expensive**
Cheap	**Php 1.85 per gram** Point of Marginal Cheapness (PMC)	**Php 2 per gram** Point of Marginal Expensiveness (PME)
Too Cheap	**Php 1.2 per gram** Indifference Price Point (IPP)	**Php 1.6 per gram** Optimal Price Point (OPP)

A Filipino nutritionist-dietician reviewed some of the best commercial chocolates in the Philippines and the list includes some of the popular brands of cacao tablea including Auro Chocolate, Malagos Chocolate, Argao Guilang, Hao Cacao, and Cacao Culture [32]. These

products' prices range from Php 0.65 per gram to Php 1.44 per gram, lower than the optimum price point of Php 1.60 per gram obtained from the Van Westendorp model for local chocolate. The composition of respondents significantly influences the results thus increasing the number of respondents will minimize problems on survey error and response bias [33]. Also, commercial chocolates have lower prices because large companies can produce large quantities of products with a lesser workforce enabling them to sell products at lower prices without losing profit [34]. Despite this, producers and sellers of the locally-produced chocolate can still compete with these brands considering that Php 1.20 per gram is the point of marginal cheapness and is the starting point of the acceptable price.

A research study posited that chocolate products including tableamade from cacao seeds are relatively inelastic to the change in price [31]. Despite the price level, it is one of the most consistent products a consumer will purchase. Further, the demand for chocolate products along with other sweets has minimal change as a result of price change. Hence, the potential of the chocolate and tablea industry is not affected by varying prices. Pricing has a limited role on chocolate demand and so the driving factor for sales is the product promotion that can lead to a shift in consumers' purchasing and consumption behavior [21].

5. CONCLUSION AND RECOMMENDATIONS

This study determined the acceptable price range for the locally-produced chocolates involving different cacao enthusiasts including students, farmers, professionals, and cacao processors. The use of Van Westendorp price sensitivity meter revealed that the acceptable price range of the local chocolate is between the point of marginal cheapness (PMC) at Php 1.20 per gram and point of marginal expensiveness at Php 2.00 per gram. It was further revealed that the optimal price point (OPP) of the local chocolate is at Php 1.60 per gram.

This result will provide valuable insights on the potential marketability of locally produced chocolates, make informed pricing decisions, assess price competition with the leading and known brands of chocolates and will allow local chocolate entrepreneurs and businessmen to set prices that optimize profitability while ensuring consumer acceptance and satisfaction. Likewise, this will provide a holistic picture for the success of the local chocolate industry and make it globally competitive in the future.

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