



Determinant Gap Map of the Most Commonly Consumed Instant Coffee: A Perceptual Mapping Analysis

Jennilyn C. Mina, Romeo B. Campos Jr.

Nueva Ecija University of Science and Technology, Cabanatuan, Philippines
Email: zedka_jen27@yahoo.com

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Abstract

The overall insight of this study focused on using the identified attributes or characteristics of mostly consumed instant coffee in San Isidro, Nueva Ecija Philippines. The researchers utilized the identified attributes as the determinants of axes (x,y) for identifying the perceived value or the market positioning of each variety of identified instant coffee. As an additional perspective, the researchers incorporated the benefits of utilizing the perceptual map for defining the main preference of the consumers that could give a bright perspective for the Research and Development (R&D) department of these brands. Furthermore, the researchers include the description of the respondents in terms of age, sex, civil status, engagement or profession and, monthly income and allowances as the fundamental basis for defining the chosen segment of consumers. For the methodology of interpreting and gathering information and facts, the researchers utilized the descriptive method of a quantitative approach to execute the current market analysis. For the statistical treatment, the proponents of the study used the five-point scale congruent to the Relative Importance Index (RII) to quantify the degree or the level of importance of each identified attribute. The respondents are the 160 residents of the abovementioned municipality who were chosen purposively by the researchers and the questionnaire was administered via online platforms. The data and information then were tabulated and computed using Microsoft Excel. For the results and discussion, the researchers used a mathematical diagram to locate the perceived value of each identified variety of coffee and to determine the gap in the market that would serve as the basis for future product development and improvement. It is further concluded that perceptual mapping gives a dynamic insight for the instant coffee manufacturers for the improvement of the quality of products that they are producing. Hence, it is recommended that product innovators and developers must utilize the determinant

mapping analysis for the entire industry to have a more precise and accurate interpretation of the customers' perspective and assumption toward a certain product or service.

Subject Areas

Business Analysis

Keywords

Attributes, Determinant Gap, Instant Coffee, Perceptual Map, Product Development Plan

1. Introduction

In the field of marketing, a product is defined as something that can be tangible, or intangible if it is in the form of services. Differentiating companies based on whether they sell services or goods can be inadequate. In fact, instead of using the terms “services” and “goods,” entrepreneurs should use the terms “intangibles” and “tangibles” (Levitt, 1981) [1]. In reality, in the marketplace, everyone sells intangibles, regardless of what is created in the factory.

Furthermore, a product is described as anything that can answer the stated problem of a certain customer or particular buyer. Sawhney (2006) [2] mentioned that the true customer focus involves marketers starting with a consumer problem and working toward providing a solution to this problem. Positive emotions can also act as internal triggers, and they can even be prompted by a desire to alleviate a bothersome situation. After all, the consumer buys the products to find solutions to their existing problems (Eyal, 2014) [3]. Thus, the businesses, as product designers, it is their goal to fix these challenges and reduce suffering to scratch the user's itch.

Hence, in the higher level of thinking, a product is a combination of different characteristics or attributes that are associated together to solve a certain issue or problem raised by the consumer or by the selected market—the target market. Given this kind of point-of-view, it is notable that the majority of the product or service providers, designed their outputs based on the perspective of the top management, production department, and research and development team for the reason that is an array of opportunities to develop a product using market-driven strategies (Cravens, *et al.*, 2000) [4]. In this particular sense, the top management neglects that products and services must be intended to address the problems of the primary stakeholders—the consumers. Thus, this kind of situation would lead to the catastrophic destiny of a certain product because the customers' needs must be the fundamental basis of product development (Costa, *et al.*, 2006) [5]. According to Garvin (1987) [6], the managers must know what they have to improve to increase the quality of their products because consumers have told them so.

It may be claimed that in today's business environment, consumer wishes, concerns, and views, rather than industry profits, are the driving factor behind many strategic company choices (Lumen, n.d.) [7]. It can be stated that product characteristics are essential for getting one's business noticed in the increasingly competitive e-commerce industry. In certain ways, businesses must provide potential consumers with what they want in a manner that is simple for the typical individual to locate. According to McName (2020) [8], with the flexibility provided by contemporary headless e-commerce platforms, it is important to recognize and capitalize on the opportunities inside strategic product attribution. These methods were so-called, market-driven and market-driving analyses for which the focus of the market driving is more on product innovation based on the perspective and point-of-view of the products or services providers (Tuominen, *et al.*, 2004) [9]. The former refers to reactive business logic or logic indicating the acceptance of the market as given, while the latter emphasizes proactive business logic involving changing the composition of market players (Schindehutte, *et al.*, 2008) [10]. Kumar, *et al.* (2000) [11] emphasized that the value of being market-driven is unquestioned in companies today. As a matter of fact, according to current practice, success begins with rigorous market research, investigation of client demands, and the development of distinctive products or services for a well-defined segment.

In the Philippines, the Gross Domestic Product (GDP) can be considered as an aggregate wealth of the country, which is composed of government revenues levied by the government and non-government institutions in the form of taxes and fees. The GDP of the Philippines, which is an important indicator of a country's economy, is expected to increase substantially to over 590.86 billion U.S. dollars by 2026 according to O'Neill (2021) [12]. Going into details, for the private sectors, it is evident that top taxes payers were corporations that provide products associated with beverages for which a substantial percentage of their sales come from coffee and caffeinated beverages.

Based on statistics [13], in 2019, the total coffee consumed in the Philippines was about 3.250 million kilograms which shows the long-term increase in coffee consumption over the years, hence for the year 2020, it is noted that the Filipinos consumed 3.3 million coffee bags. This only implies that the coffee industry is one of the major contributors to the economic growth of the country. As a result, by incorporating new sensorial characteristics, consumer experiences, and consumption occasions, the coffee industry is constantly capitalizing to meet the trends in coffee consumption (Samoggia *et al.*, 2020) [14].

By putting flesh on the bones of reality, since a lot of people prefer to travel from their homes to locations for business agenda when they travel, they most likely have the need and want for food and drink. This is where the food and beverage sector, which includes coffee shops, sprang from. It was due to this that business-minded people were encouraged to meet such demand by providing foods and drinks. As the interest of people became diverse, the products and

services of the food and beverage sector followed (Suarez *et al.*, 2017) [15].

Nowadays, many coffee shops businesses are being established due to the increased demand for such. Coffee shops are now being used as a center for socialization and a place to meet up (Suarez *et al.*, 2017) [15]. Therefore, by increasing tourism sectors through capital investments in the coffee industry, the economy would certainly improve.

Adding to the story, there is no doubt that most coffee drinkers, particularly Filipinos, began their journey with instant coffee. There's no one to blame because a three-in-one coffee is more convenient for drinkers to prepare. The only thing that is needed is hot water to get started. Not to mention the fact that instant coffee is the cheapest in the Philippines (Coffeellera, 2019) [16]. Verily, Deocareza (2015) [17] avowed that coffee remains to be the go-to beverage of Filipinos for an instant pick-me-up or energy boost. She even went on to say that the country's ongoing coffee craze is reflected in Filipinos' shopping habits, particularly the rise in instant coffee purchases over the last year.

Over time, rising trends, political, social, economic, and technical development all over the world have influenced consumer purchasing behavior, resulting in customers being more mature, knowledgeable, and demanding (Souki *et al.*, 2016) [18]. For this instance, executing an analysis to excavate the real attributes needing improvement is a vital kind of study to identify the real preference of the individual consumers that will benefit the entire product line associated with caffeinated beverages. Improvement strategy analysis such as implementing a quantitative study to identify the comments and suggestions of the consumers (Salzer *et al.*, 2002) [19] by selecting negative reviews for target product attributes, with the technology of text mining, the coffee industry can find the dissatisfaction and propose improvement strategies to attain sustainability in the industry (Yang *et al.*, 2021) [20].

Therefore, this study is relevant in product launching and commercialization most especially for the booming industry like the coffee business. The project and product engineers must take this as one of the major considerations for designing a new product especially in the application of perceptual mapping to guide the Research and Development (R&D) team for obtaining a 360-degree perspective on extracting the needed attributes that can be used as a fundamental basis of product development (Costa, *et al.*, 2006) [5] for caffeinated beverages such as instant coffee. The brands of instant coffee were personally chosen as the subject of this research since the Philippines is projected to be the fifth-biggest market of instant coffee behind Japan, the United States, South Korea, and China (Federigan, 2019) [21].

In this study, the researchers employed the perceptual mapping technique to get insight into Filipino consumers' perceptions of various instant coffee kinds. Perceptual mapping is a diagrammatic technique used by asset marketers that attempts to visually display the perceptions of customers or potential consumers (Ayaz, 2009) [22]. Since the map would determine the gap in the market, this at-

tempt leads to identifying the opportunity for the manufacturers of instant coffee to develop a new product. In the end, the researchers proposed a product development that can be used by the manufacturers as a basis for further improvements and new product development of these instant coffee manufacturers in the Philippines.

2. Objectives of the Study

This research study analyzed the attribute rating of instant coffee based on the perception of the residents in San Isidro Nueva Ecija, Philippines. Specifically, this research endeavor sought to accomplish the following objectives:

1. To describe the demographic profile of the consumers in terms of:
 - 1.1. Age;
 - 1.2. Sex;
 - 1.3. Civil Status;
 - 1.4. Engagement or Profession; and,
 - 1.5. Monthly Income or Allowance.
2. To identify the most valued attributes of instant coffee based on the perception of the consumers using Relative Importance Index;
3. To exemplify the market share of each brand of instant coffee in the Philippines with the use of Perceptual Map;
4. To identify the gap map for the opportunity of new product development; and,
5. To propose a product development plan based on the identified gap.

3. Methodology

The researchers utilized a descriptive method of quantitative approach in an attempt to analyze and interpret the demographic profile of the respondents and the level of satisfaction of the consumers on the attributes of instant coffee. Descriptive research as cited by Mina (2019) [23] describes a certain present condition (Creswell, 2014) [24]. The descriptive research method is used in this study to describe the profile of the respondents in terms of age, sex, civil status, engagement or profession, and monthly income or allowance. This Relative Importance Index (RII) method is also employed to identify the most valued attributes of instant coffee based on the perception of the consumers. As a means to exemplify the market share of each brand of instant coffee in the Philippines with the use of a perceptual map and the gap map for the opportunity of new product development, the researchers identified the market positioning of each brand of instant coffee and the gap map using the Microsoft Excel.

The respondents of this study were the 160 residents of the municipality of San Isidro, Nueva Ecija Philippines who were chosen purposively by the researchers. A purposive sampling technique was used by the researchers to select participants from the sample population in this study. This method, which falls under the category of non-probability sampling techniques, selects sample mem-

bers based on their knowledge, relationships, and expertise on such topics of interest (Topp *et al.*, 2007) [25]. People who participated in this study were those who regularly drink instant coffee since they were thought to be the best sources of information for this research.

Since the study was conducted during the pandemic crisis in the Philippines, the researchers used a survey questionnaire administered via digital platforms to collect the necessary data for the accomplishment of this study. The survey questionnaire checklist was the instrument used in this study. It is used primarily to come up with the most valued attributes of instant coffee based on the perception of the consumers. A questionnaire is a list of planned, written questions, and is commonly used in normative survey studies and the measurement of attitudes and opinions (McLeod, 2018) [26].

Since the research instrument utilized in this study was a researcher-made questionnaire, it was validated by the experts and other practitioners in the field of marketing who are affiliated with the beverages industry. The reliability of the questionnaire was also established by the researchers' statistician.

The data were gathered, tallied, and recorded in preparation for statistical treatment, analysis, and interpretation. Percentage and frequency distribution are the statistical tools used in this study. To describe the most valued attributes of instant coffee based on the perception of the consumers, their answers were calculated on a 5-point Likert-type rating scale which is shown below (Table 1).

Furthermore, in order to identify the most valued attributes of instant coffee based on the perception of the consumers, the Relative Importance Index was used. The Relative Importance Index (RII) is used to determine the relative importance of quality factors involved in this study (Desai & Bhatt, 2013) [27]. The RRI was computed using the formula below:

$$RII = \text{Sum of weights } (W_1 + W_2 + W_3 + \dots + W_n) / A \times N$$

where W = weights given to each factor by the respondents and will range from 1 to 5 where 1 is not important at all and 5 is extremely important. A = highest weight (*i.e.* 5 in this case), and N = total number of respondents.

Lastly, the perceptual map for each brand of instant coffee including the gap map was constructed using 2010 Microsoft Excel.

Table 1. Rating scale for the most valued attributes of instant coffee based on the perception of the consumers.

Scale	Rate	Verbal Interpretation	Verbal Description
4.20 - 5.00	5	Extremely Important	The most valued attributes of instant coffee
3.40 - 4.29	4	Very Important	More valued attributes of instant coffee
2.60 - 3.39	3	Moderately Important	Valued attributes of instant coffee
1.80 - 2.59	2	Slightly Important	Less valued attributes of instant coffee
1.00 - 1.79	1	Not Important at All	Not valued attributes of instant coffee

4. Results and Discussion

The findings from the primary instrument used in this study are presented in this section. Various statistical tools were used to organize, quantify, and interpret the responses. The presentation followed the sequence of the objectives of the study.

Table 2 shows the demographic profile of the consumers in terms of age, sex, civil status, engagement or profession, and monthly income or allowance. As perceived in the figure above, it can be noted that 35.63% of the respondents in this study were 18 - 25 years old, 26.88% were 46 years old and above while

Table 2. Demographic profile of the consumers.

Age Range	Frequency	Percentage
18 - 25	57	35.63
26 - 35	30	18.75
36 - 45	30	18.75
46 and above	43	26.88
Total	160	100.00
Sex	Frequency	Percentage
Male	55	34.38
Female	105	65.63
Total	160	100.00
Civil Status	Frequency	Percentage
Single	75	46.88
Married	85	53.13
Total	160	100.00
Engagement or Profession	Frequency	Percentage
Student	45	28.13
Self-employed	40	24.99
Government Employee	38	23.75
Private Employee	33	20.63
Others	4	2.50
Total	160	100.00
Monthly Income or Allowance (in Philippine Peso)	Frequency	Percentage
10,000.00 and below	61	38.13
10,001.00 - 20,000.00	49	30.63
20,001.00 - 30,000.00	13	8.13
30,001.00 and above	37	23.13
Total	160	100.00

18.75% were 26 - 35 and 36 - 45 years old. Based on the findings of this study, it can be stated that the majority of the instant coffee customers surveyed by the researchers are Millennials and Generation Z, the majority of whom are still students. Filipino demand has increased in volume as a result of increased consumption of instant coffee, particularly among younger generations who prefer the convenience of instant coffee (Bamber *et al.*, 2017) [28]. Furthermore, in today's society, people within the age range of 18 - 25 who are mostly in college have become reliant on instant coffee to perform at their best in a variety of aspects of their hectic lives, such as school, group works, and internships (Olsen, 2013) [29]. At the same time, young professionals also drink a lot of coffee, and the majority of them said that the caffeine in coffee helps their blood move and makes them feel energized. Due to this reason, a lot of employees and early morning workers tend to rely on their coffee to help them get through their workday (Kelly *et al.*, 2016) [30].

As evidenced by the data presented above, the majority of the respondents or 65.63% were female while 34.38% were male. It is noted that the majority of the consumers who were surveyed were female, but this can be supported by the study conducted by Sammogia *et al.* (2020) [31], which discovered that women and older adults drink coffee as a personal habit, to socialize, and to improve their mood. In addition to this, the proponents claimed that women value coffee for its ability to relieve headaches and that older people drink it as part of a family dietary tradition.

It can be illustrated from the data above that the majority of the respondents or 53.13% were married while 46.88% who answered the survey were single. The findings have shown that married consumers are more likely to drink instant coffee, which is similar to the findings of the study conducted by Je *et al.* (2014) [32], which revealed that married adults consume instant coffee more frequently than single adults. Beyond the shadow of a doubt, it was reported that married women consume caffeinated beverages nearly twice as frequently as unmarried women (Alfawaz *et al.*, 2020) [33]. It was mentioned by Maranges *et al.* (2017) [34] that drinking coffee helps a married couple's relationship. If truth be told, it is the first to demonstrate a link between couples' sleep deprivation and their romantic relationship satisfaction.

As shown in the figure above, the majority of the respondents or 28.13% were students, 24.99% were self-employed, 23.75% were government employees, and 20.63% were private employees and 2.50% had different engagement or profession. In this new normal, many students are dragging after a late night of studying, mingling with friends, or a long day of online classes and distance learning. Both students and individuals at home, appear to be drinking more instant coffee (Sherman, *et al.*, 2016) [35], as caffeine in moderate dosages can help fix this problem by acting as a natural stimulant.

Lastly, it can be perceived from the data above that the majority of the respondents or 38.13% received a monthly income or allowance of P 10,000.00 and

below, 30.63% were earning P 10,001.00 - 20,000.00, 23.13% were being paid P 30,001.00 and above, while only 8.13% were being compensated of 20,001.00 - 30,000.00. Because the vast majority of respondent-consumers were students, it is important to mention that they typically obtain money from their parents in the form of allowances or cash as needed (Fiates *et al.*, 2008) [36]. Parents and grandparents were the main sources of income for the students; the majority of the students have been receiving a monthly or weekly allowance from them, which means that resorting to drinking cheaper instant coffee is very helpful for them to maximize the use of their budget aside from the fact that drinking coffee has become a necessity in the daily life of most Filipinos (Fiates *et al.*, 2008) [36]. To substantiate the preceding assertion, it is indisputable that when the Philippines is faced with a crisis like the COVID-19 pandemic, the government prioritizes the distribution of relief products such as a few kilograms of rice, canned sardines, instant noodles, sachets of instant coffee, and a pack of sugar (Czarniecka-Skubina, 2021) [37] which supports that instant coffee is one of the basic needs of consumers in all walks of life, whether they are earning high or low.

Table 3 shows the ranking of the attributes of instant coffee based on the answers of the consumers who were surveyed in this study. Instant coffee's ability to get dissolved instantly in hot water is the most important attribute for buyers, as evidenced by the data above. With instant coffee, it's easy—the consumer simply has to pour the powder in the sachets into a cup, add hot water, and then the coffee is ready to get sipped. Unlike with the whole beans, it's slightly different since the consumer needs to grind the coffee, brew it, normally with the use of some kind of filter, and then dispose of those waste grounds (Newton, 2018) [38]. In addition, one of the benefits of instant coffee is its speed of preparation, which reduces shipping weight and volume compared to beans or ground coffee just to produce the same amount of beverage, and its long shelf life—although instant coffee can rot if not kept dry (Phan, 2009) [39].

Table 3. Ranking of the attributes of instant coffee.

No.	Attributes of Instant Coffee	RII	Rank
1	Relaxing aroma	0.8238	5
2	Fresh and strong smell	0.8138	7
3	Accurate caffeine content	0.7875	8
4	Inferior aftertaste	0.7563	9
5	Good coffee blend/ texture	0.8200	6
6	Balance level of acidity	0.6863	10
7	Gives an energetic feeling	0.8863	3
8	Real coffee flavor	0.9150	2
9	Instantly dissolve in hot water	0.9175	1
10	Balanced bitterness	0.8488	4

RII: Relative Importance Index.

Over and above that, the consumers also wanted a real coffee flavor, making it the second most sought-after attribute of instant coffee as can be observed from the results above. This only indicates that to get through their day, coffee drinkers prefer brands that contain real coffee flavor (Nieber, 2017) [40]. Many are unaware that instant coffee is made of real coffee. The perception some people have that instant coffee is “not a real coffee” is simply wrong. In fact, in some cases, instant coffee can taste even better than brewed coffee (Waka Coffee, Inc., 2021) [41]. According to Marsh (2016) [42], instant coffee is exactly just 100 percent coffee beans that have been roasted, ground, and brewed with water into a liquid, then dehydrated, so it has the same health benefits as ground coffee beans.

By the same token, consumers were also considering the brand of an instant that gives an energetic feeling which makes this attribute third in the rank. Many individuals rely on coffee to get them through the day. If truth be told, caffeine from coffee is consumed by many people to boost their energy and concentration (Eske, 2019) [43]. It is undeniable that caffeine in coffee stimulates the central nervous system in a modest way that provides comfort and energy which is why coffee consumers are looking for it. In a study conducted by Cappelletti *et al.* (2015) [44], instant coffee has been demonstrated in studies to boost mental function, particularly alertness, attention, and concentration, depending on the amount consumed.

In addition to this, the consumers also enjoyed the balanced bitterness in instant coffee, and that put this characteristic as the fourth most valued attribute. In contrast to pure coffees, which were regarded as full-bodied and bitter, instant coffee is seen as watery, sweeter, and less bitter (Calvino *et al.*, 1996) [45].

Another attribute of instant coffee that is being chased by coffee drinkers is its relaxing aroma. Aroma, along with body, acidity, sweetness, bitterness, and aftertaste, is one of the most important coffee quality indicators since it signifies how a coffee will taste when served. Professional coffee tasters rely heavily on the fragrance of a coffee to assess its quality (Crowley, 2008) [46].

Good coffee blend/texture is also being considered by consumers when buying instant coffee. Instant coffee powder, as the name implies, is a fine powder that is dried using a spray method. Using already brewed coffee, instant coffee requires drying and eliminating liquid before it can be made dissolvable for the consumer. Spray drying utilizes tremendous heat and is quite fast. The consequence of this is a powdered form that is composed of fine and minute particles (Waka Coffee Inc., 2021) [47].

Along with that, the consumers also valued those brands of instant coffee with a fresh and strong smell. A fresh cup of coffee has a considerably stronger aroma than an older, stale one because the aroma is the release of delicious components from the coffee into the air. As the roast progresses, more components in the instant coffee transform and become perceptible, resulting in a richer scent (Crowley, 2008) [46].

Another reason why consumers were buying instant coffee is because of its accurate caffeine content. The content of caffeine in instant coffee depends on many factors including how big the cup is, how much of this concentrated coffee is used and the type or brand of instant coffee bean used. Generally, the caffeine content depends completely on the number of instant granules used in the powder. In instant coffee, it has enough caffeine content because it is less than traditional coffee and it is more comparable to black tea or soft drinks (Kelly *et al.*, 2016) [30].

Many factors determine the quality of coffee and its resulting cup, but overall, instant coffee has less caffeine and an inferior flavor than traditionally brewed coffee with grounds (Amora Coffee, n.d.) [48]. Due to this, it has an inferior aftertaste that a lot of consumers loved.

Lastly, consumers also valued the balance level of acidity found in instant coffee. It is important to note that all coffees, including instant ones, have a certain amount of acidity that cannot be removed; however, some manufacturers reduce the acidity by adding potassium. Often, instant coffee is a large grind coffee so that when hot water is poured over the coffee, the brew is less acidic which makes this variety more in demand especially to those consumers who are quite acidic (Brian, n.d.) [49].

The diagram (Figure 1) depicts the top twelve (12) varieties of coffee mostly consumed by the respondents in the municipality of San Isidro, Nueva Ecija, Philippines. In which, each point corresponds to the market positioning or the perceived value of each product according to the top two (2) market determinants identified in table number two (2) using the relative importance index (Table 4). The proponents of the study used the “real coffee flavor” and “instantly dissolve in hot water” as the primary attributes of the x and y axes of the

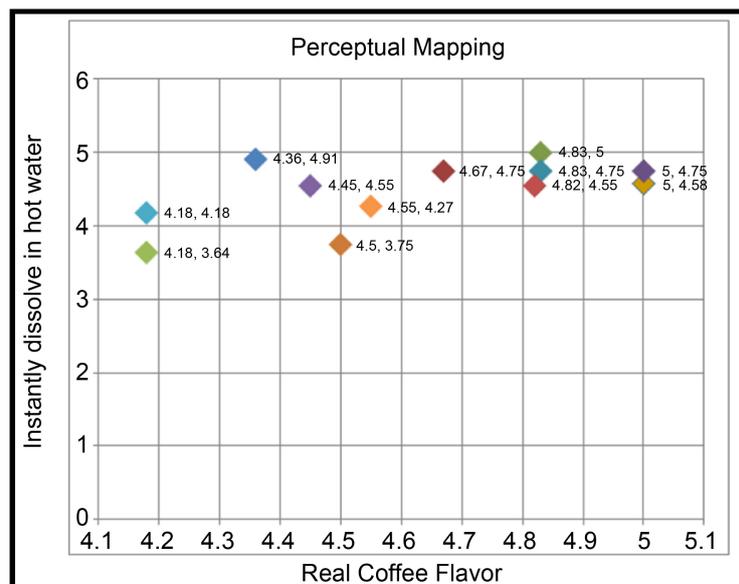


Figure 1. The perceptual map of instant coffee.

Table 4. Legend for the perceptual map.

Corresponding Color	Brand/Variety	X	Y
	Nescafe Original	5.00	4.58
	Nescafe Classic	4.67	4.75
	Nescafe Classic Decaf	4.83	5.00
	Nescafe Classic Strong	5.00	4.75
	Nescafe Classic Classico	4.83	4.75
	Nescafe Gold	4.50	3.75
	Nescafe Taster's Choice	4.36	4.91
	Nescafe Excella	4.82	4.55
	Great Taste Premium	4.18	3.64
	Great Taste Granules	4.45	4.55
	Blend 45	4.18	4.18
	Café Puro	4.55	4.27

coordinate plane. Additionally, gaps and spaces within the quadrant serve as opportunities because these spaces are not yet penetrated, hence, this can open new ideas for product development and product improvement for the manufacturers of instant coffee in the said country. Typically, in this graph, the position of a product, product line, or company brand is displayed relative to their competition. Perceptual maps can have any number of dimensions but the most common is two dimensions and this one was used by the researchers in this study.

The diagram (**Figure 2**) shows that there are three gaps in the quadrant. These gaps depict that there are huge opportunities for new product development or improvement using the identified attributes. Hence, designing a product protocol using the identified determinants will provide a systematic guideline or pathway for the product innovators to design a new product concept. Moreover, the marketing department can also anchor a series of marketing programs based on the identified gaps to create demand for future product commercialization. Indeed, perceptual mapping has been used extensively in marketing. This powerful technique is used in new product design, advertising, retail location, and many other marketing applications where the manager wants to know the basic cognitive dimensions of the product being evaluated and more importantly the relative positioning of the product relative to the ones present in the market (Ayaz, 2009) [22].

Given the identified perceived value of the top twelve (12) mostly consumed brands of instant coffee by the respondents, the researchers identified that there are several rooms for product improvement and product development. Generally, there are five (5) initial steps for product development: Opportunity Identification, Concept Generation, Concept Evaluation, Development, and Product Commercialization (**Table 5**).

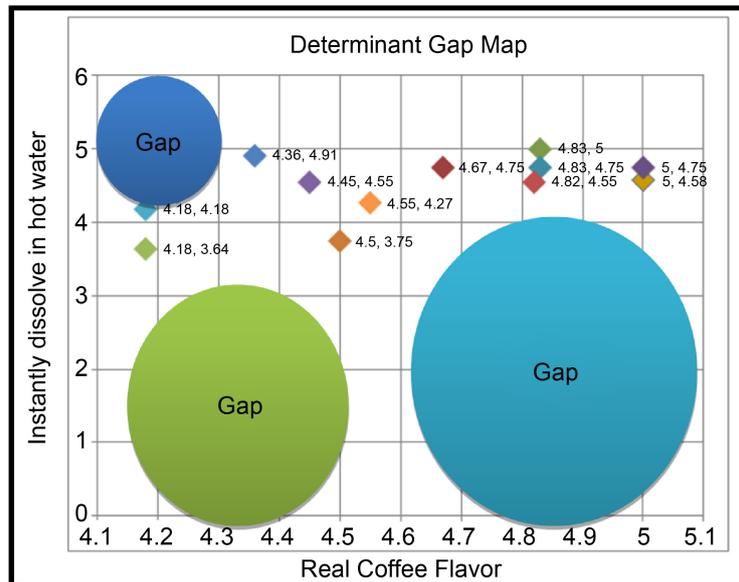


Figure 2. The Gap Map (opportunity identification).

Table 5. The proposed product development plan.

Nature	Objective	Persons/Department Involved
Opportunity Identification	This is the most difficult to express or define for the reason that this step requires a thorough evaluation of data derived from the market.	The Research and Development department (R&D)
Concept Generation	This problem-solving activity has evolved to a high level of sophistication. Generally, “concept generation” is used to design a certain product based on the identified opportunities.	The Research and Development department (R&D)
Concept Evaluation	Before new ideas can be developed, they must be reviewed, filtered, and sorted out.	The Research and Development department (R&D); The Top Management; The Marketing Department
Development	It is also the stage at which the marketing strategy is sketched out and subsequently filled out.	The Research and Development department (R&D); and the Marketing Department
Product Commercialization	This particular stage is the Phase wherein the product and the marketing plan dance together to capture the market.	The Marketing Department

5. Conclusions and Recommendation

Based on the analysis results, the researchers concluded that most of the consumers were 18 to 25 years of age and are dominated by the female group. Moreover, the majority of the respondents were single, students and low-income

earners. The consumers' most valued brands of instant coffee were those that are instantly dissolved in hot water and the ones that have real coffee flavor. It is further concluded based on the findings that these abovementioned characteristics were the most important features of instant coffee that the consumers were looking for. More so, the perceptual mapping analysis emphasizes the perceived value of the market toward the identified products. The perceptual mapping also provides a clear illustration of opportunities that can be utilized as a basis for product designing and conceptualization.

In connection to this, the researchers recommended the use of the perceptual mapping technique because it can be used in the advancement of a product or service's market positioning plan as well as the company's overall strategy. Manufacturers and the coffee industry as a whole should be aware of the need to improve the attributes of instant coffee especially those that are most valued by the consumers to keep pace with the new emerging trends in the market. Lastly, it is suggested that the proposed product development plan be used by the existing manufacturers to serve as a guide in extending their product lines.

Conflicts of Interest

The authors declare no conflicts of interest.

References

- [1] Levitt, T. (1981) Marketing Intangible Products and Product Intangibles. *Harvard Business Review*.
<https://hbr.org/1981/05/marketing-intangible-products-and-product-intangibles>
- [2] Sawhney, M. (2006) Going Beyond the Product: Defining, Designing, and Delivering Customer Solutions. In: Lusch, R.F. and Vargo, S.L., Eds., *The Service-Dominant Logic of Marketing: Dialog, Debate, and Directions*, Routledge, New York, 365-368.
- [3] Eyal, N. (2014) *Hooked: How to Build Habit-Forming Products*. Penguin, Canada.
- [4] Cravens, D.W., Piercy, N.F. and Prentice, A. (2000) Developing Market-Driven Product Strategies. *Journal of Product & Brand Management*, **9**, 369-388.
<https://doi.org/10.1108/10610420010356975>
- [5] Costa, A.I.A. and Jongen, W.M.F. (2006) New Insights into Consumer-Led Food Product Development. *Trends in Food Science & Technology*, **17**, 457-465.
<https://doi.org/10.1016/j.tifs.2006.02.003>
- [6] Gravin, D.A. (1987) Competing on the Eight Dimensions of Quality. *Harvard Business Review*.
<https://hbr.org/1987/11/competing-on-the-eight-dimensions-of-quality>
- [7] Lumen (n.d.) Evolution of the Marketing Orientation.
<https://courses.lumenlearning.com/boundless-marketing/chapter/evolution-of-the-marketing-orientation/>
- [8] McNamee, H. (2020) List of 15 Product Attribute Examples & Types. E-Commerce.
<https://theecommanager.com/product-attributes/>
- [9] Tuominen, M., Rajala, A. and Möller, K. (2004) Market-Driving versus Market-Driven: Divergent Roles of Market Orientation in Business Relationships. *Industrial*

- Marketing Management*, **33**, 207-217.
<https://doi.org/10.1016/j.indmarman.2003.10.010>
- [10] Schindehutte, M., Morris, M.H. and Kocak, A. (2008) Understanding Market-Driving Behavior: The Role of Entrepreneurship. *Journal of Small Business Management*, **46**, 4-26. <https://doi.org/10.1111/j.1540-627X.2007.00228.x>
- [11] Kumar, N., Scheer, L. and Kotler, P. (2000) From Market Driven to Market Driving. *European Management Journal*, **18**, 129-142.
[https://doi.org/10.1016/S0263-2373\(99\)00084-5](https://doi.org/10.1016/S0263-2373(99)00084-5)
- [12] O'Neill, A. (2021) Gross Domestic Product (GDP) in the Philippines 2026. Statista. <https://www.statista.com/statistics/578709/gross-domestic-product-gdp-in-philippines/>
- [13] Statista (2021) Total Coffee Consumption in the Philippines from 2011 to 2020 (in 1,000 Bags).
<https://www.statista.com/statistics/314989/philippines-total-coffee-consumption/#statisticContainer>
- [14] Samoggia, A., Riedel, B. and Ruggeri, A. (2020) Social Media Exploration for understanding Food Product Attributes Perception: The Case of Coffee and Health with Twitter Data. *British Food Journal*, **122**, 3815-3835.
<https://doi.org/10.1108/BFJ-03-2019-0172>
- [15] Suarez, A.N., Lacay, J.K., Villanueva, V., Velasquez, R.A., Reyes, D.C., Serrano, V. and Borbon, J.C.D. (2017) Impacts of Coffee Shop Business to Tourism Industry in Three Cities of Batangas, Philippines. *Journal of Tourism and Hospitality Research*, **14**, 131-145.
<https://research.lpubatangas.edu.ph/wp-content/uploads/2017/07/JTHR-2017.1.08.pdf>
- [16] Coffeellera (2019) Why You Need to Start Drinking Brewed Coffee More than Instant Coffee.
<https://www.coffeellera.com/blog/instant-coffee-vs-brewed-coffee-why-you-need-to-start-drinking-brewed-coffee-more-than-instant-coffee/>
- [17] Adobo Magazine (2015) Kantar World Panel: Filipinos Are Coffee Addicts; 3-in-1 Mix Is King.
<https://adobomagazine.com/philippine-news/kantar-worldpanel-filipinos-are-coffee-addicts-3-in-1-mix-is-king/>
- [18] Souki, G.Q., Reis, V.C. and Moura, L.R.C. (2016) The Behavior of Bakery Consumers. *Organizações Rurais & Agroindustriais*, **18**, 1-12.
- [19] Salzer, M.S. and Shear, S.L. (2002) Identifying Consumer-Provider Benefits in Evaluations of Consumer-Delivered Services. *Psychiatric Rehabilitation Journal*, **25**, 281-228. <https://doi.org/10.1037/h0095014>
- [20] Yang, C., Wu, L., Tan, K., Yu, C., Zhou, Y., Tao, Y. and Song, Y. (2021) Online User Review Analysis for Product Evaluation and Improvement. *Journal of Theoretical and Applied Electronic Commerce Research*, **16**, 1598-1611.
<https://doi.org/10.3390/jtaer16050090>
- [21] Federigan, L. (2019) My Morning Choice—Definitely Not Nescafé or Kopiko's 3-in-1 Coffee. *The Manila Times*.
<https://www.manilatimes.net/2019/08/24/business/columnists-business/my-morning-choice-definitely-not-nescafe-or-kopikos-3-in-1-coffee/605027>
- [22] Ayaz, A., Karthikeyan, B., Vignesh, S., Teotia, S. and Singh, S.P. (2009) Perceptual Mapping of Beverages: Coffee and Tea. Bharathidasan Institute of Management, Tiruchirappalli.

- [23] Mina, J.C. (2020) Competitive Profile Matrix of Selected Drug Stores at Jaen, Nueva Ecija, Philippines. *International Journal of Advanced Engineering, Management and Science*, **6**, 186-193. <https://doi.org/10.22161/ijaems.64.5>
- [24] Creswell, J.W. (2014) *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. 4th Edition, Sage Publications Ltd., Thousand Oaks.
- [25] Topp, L., Barker, B. and Degenhardt, L. (2004) The External Validity of Results Derived from Ecstasy Users Recruited Using Purposive Sampling Strategies. *Drug and Alcohol Dependence*, **73**, 33-40. <https://doi.org/10.1016/j.drugalcdep.2003.09.001>
- [26] McLeod, S. (2018) Questionnaire: Definition, Examples, Design and Types. <https://www.simplypsychology.org/questionnaires.html>
- [27] Desai, M. and Bhatt, R. (2013) Critical Causes of Delay in Residential Construction Projects: Case Study of Central Gujarat Region of India. *International Journal of Engineering Trends and Technology (IJETT)*, **4**, 762-768.
- [28] Bamber, P., Frederick, S. And Gareffi, G. (2017) The Philippines in the Coffee Global Value Chain. Duke Center on Globalization Governance & Competitiveness, Duke, 80. <http://industry.gov.ph/wp-content/uploads/2017/08/The-Philippines-in-the-Aerospace-Global-Value-Chain.pdf>
- [29] Olsen, N.L. (2013) Caffeine Consumption Habits and Perceptions among University of New Hampshire Students. Honors Theses and Capstones, University of New Hampshire, Durham, 103. <https://scholars.unh.edu/cgi/viewcontent.cgi?article=1102&context=honors>
- [30] Kelly, C.K. and Prichard, J.R. (2016) Demographics, Health, and Risk Behaviors of Young Adults Who Drink Energy Drinks and Coffee Beverages. *Journal of caffeine research*, **6**, 73-81. <https://doi.org/10.1089/jcr.2015.0027>
- [31] Samoggia, A. and Riedel, B. (2020) Assessment of Nutrition-Focused Mobile Apps 'Influence on Consumers' Healthy Food Behaviour and Nutrition Knowledge. *Food Research International*, **128**, Article ID: 108766. <https://doi.org/10.1016/j.foodres.2019.108766>
- [32] Je, Y., Jeong, S. and Park, T. (2014) Coffee Consumption Patterns in Korean Adults: The Korean National Health and Nutrition Examination Survey (2001-2011). *Asia Pacific Journal of Clinical Nutrition*, **23**, 691-702.
- [33] Alfawaz, H.A., Khan, N., Yakout, S.M., Khattak, M.N., Alsaikhan, A.A., Almousa, A.A., *et al.* (2020) Prevalence, Predictors, and Awareness of Coffee Consumption and Its Trend among Saudi Female Students. *International Journal of Environmental Research and Public Health*, **17**, Article No. 7020. <https://doi.org/10.3390/ijerph17197020>
- [34] Maranges, H.M. and McNulty, J.K. (2017) The Rested Relationship: Sleep Benefits Marital Evaluations. *Journal of Family Psychology*, **31**, 117-122. <https://doi.org/10.1037/fam0000225>
- [35] Sherman, S.M., Buckley, T.P., Baena, E. and Ryan, L. (2016) Caffeine Enhances Memory Performance in Young Adults during Their Non-Optimal Time of Day. *Frontiers in Psychology*, **7**, Article No. 1764. <https://doi.org/10.3389/fpsyg.2016.01764>
- [36] Fiates, G.M.R., De Mello Castanho Amboni, R.D. and Teixeira, E. (2008) Consumer Behaviour of Brazilian Primary School Students: Findings from Focus Group Interviews. *International Journal of Consumer Studies*, **32**, 157-162. <https://doi.org/10.1111/j.1470-6431.2007.00661.x>
- [37] Czarniecka-Skubina, E., Pielak, M., Sałek, P., Korzeniowska-Ginter, R. and Owczarek,

- T. (2021) Consumer Choices and Habits Related to Coffee Consumption by Poles. *International Journal of Environmental Research and Public Health*, **18**, Article No. 3948. <https://doi.org/10.3390/ijerph18083948>
- [38] Newton, T. (2018) Coffee Wars: Should You Drink Instant or Whole Bean? Perfect Daily Grind. <https://perfectdailygrind.com/2018/01/coffee-wars-should-you-drink-instant-or-whole-bean/>
- [39] Phan, T.T.D. (2009) Influence of the Process of Roasting and Coffee Preparation on Human Physiology. Tomas Bata University in Zlín, Zlín. <http://hdl.handle.net/10563/23060>
- [40] Nieber K. (2017) The Impact of Coffee on Health. *Planta Medica*, **83**, 1256-1263. <https://doi.org/10.1055/s-0043-115007>
- [41] Waka Coffee, Inc. (2021) 20 Reasons Why I Absolutely Love Instant Coffee. <https://www.wakacoffee.com/blogs/coffeelifeblog/20-reasons-why-i-love-instant-coffee>
- [42] Marsh, S. (2016) Instant Coffee vs. Ground Coffee: Which Is Healthier? Coach. <https://coach.nine.com.au/diet/instant-vs-ground-coffee-health-benefits/7fd0c0ca-f50d-4b4f-93c5-1d58c054a34a>
- [43] Eske, J. (2019) Why Does Coffee Make Me Tired? Medical News Today. <https://www.medicalnewstoday.com/articles/326443>
- [44] Cappelletti, S., Piacentino, D., Sani, G. and Aromatario, M. (2015) Caffeine: Cognitive and Physical Performance Enhancer or Psychoactive Drug? *Current Neuropharmacology*, **13**, 71-88. <https://doi.org/10.2174/1570159X13666141210215655>
- [45] Calvino, A.M., Zamora, M.C. and Sarchi, M.I. (1996) Principal Components and Cluster Analysis for Descriptive Sensory Assessment of Instant Coffee. *Journal of Sensory Studies*, **11**, 191-210. <https://doi.org/10.1111/j.1745-459X.1996.tb00041.x>
- [46] Crowley, L. (2008) Coffee Aroma May Have Stress-Busting Qualities. News and Analysis. <https://www.bakeryandsnacks.com/Article/2008/07/18/Coffee-aroma-may-have-stress-busting-qualities>
- [47] Waka Coffee, Inc. (2021) Instant Coffee Powder vs. Crystals: What's the Difference? <https://www.wakacoffee.com/blogs/coffeepedia/instant-coffee-powder-vs-crystals>
- [48] Amora Coffee (n.d.) Caffeine Content of Instant Coffee. <http://www.caffeine-content.com/caffeine-in-coffee/caffeine-in-instant-coffee/>
- [49] Brian (n.d) Is Instant Coffee Less Acidic than Ground Coffee? Top Off My Coffee. <https://www.topoffmycoffee.com/is-instant-coffee-less-acidic-than-ground-coffee/>