

Consumer preference analysis on medium chain triglycerides (MCT) oil in the Philippines: A conjoint analysis

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ABSTRACT

Medium-Chain Triglyceride (MCT) oil has gained popularity as a dietary supplement in the health and wellness industry, particularly for its potential health benefits and versatility in consumption. Despite its expanding popularity, there has been little research on the specific attributes that influence consumer preferences for MCT oil, creating a gap in understanding the factors that drive purchasing decisions in this market. This study aimed to address this gap by identifying the most preferred combination of MCT oil attributes using a conjoint analysis approach. Key attributes considered were price, packaging material, certification type, product form, sourcing location, flavor, and consumption method. A conjoint analysis with an orthogonal design was conducted using SPSS version 27 to evaluate consumer preferences across these attributes. Results indicated that price and packaging material were the most influential factors in consumer choice, followed by certification type and product form. Attributes such as sourcing location and flavor ranked lower in importance, suggesting a consumer preference for cost-effectiveness, sustainability, and health assurances over sensory characteristics. The findings have practical implications for MCT oil producers and marketers by providing insight into consumer priorities, enabling them to design products that align more closely with these preferences. Practical contributions include recommendations for product differentiation through strategic pricing, sustainable packaging, and organic certification. This study's approach and findings may also be applicable to broader consumer preference analyses within the dietary supplement and health product markets globally.

1. Introduction

In recent years, Medium Chain Triglyceride (MCT) oil has gained significant global attention due to its potential health benefits such as improved cognitive function, increased energy levels, and effective weight management (He et al., 2024). MCT oil, mostly derived from coconut and palm kernel oils, is made up of medium-length triglycerides which are digested differently than long-chain triglycerides (LCTs). Because of this metabolic difference, MCTs can be oxidized in the liver more quickly than LCTs, which metabolized faster in the body (Lee et al., 2022). This fast rate of oxidation has been linked to benefits such as reduced body weight gain and smaller fat depots in animal studies over

several months of consumption (Healthline, 2023)

Further research in both animal and human trials has indicated that MCTs may have a more significant satiating effect compared to LCTs, contributing to better weight control and appetite regulation (Vandenbergh et al., 2020). Hormones like peptide YY, stomach inhibitory peptide, neurotensin, pancreatic polypeptide, and cholecystokinin may have a role in these actions, however the precise mechanisms are yet clear (Abe et al., 2021). This has led to growing interest in the use of MCTs as a supplement for managing obesity and improving metabolic health.

The rising popularity of the ketogenic diet has also contributed to the increased demand for MCT oil, known for aiding metabolic health and

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weight management (Myette-Côté et al., 2020). This is because when MCT is consumed, it bypasses the liver – directly converting it to ketones that requires less fat on food consumption. Having this, the body could consume more protein and carbohydrates that allows for a ketogenic diet due to an increase in ketosis reaction in the human body (Lin et al., 2021). Moreover, studies have proven the contradictory claim of older literatures (early and late 90's studies and results) on how MCT could be a viable dietary supplement among people with large appetite to reduce consumption (Liu, 2008). As a reflection, the MCT oil market was estimated to be worth USD 780 million globally in 2022 and is projected to rise at a compound annual growth rate (CAGR) of 7.6 % over the forecast period (2023–2032), reaching USD 1.62 billion by 2032 (Grand View Research, 2021; Global Market Insights, 2023). This growth is driven by consumer awareness of MCT oils' health benefits, their application in dietary supplements and functional foods, and the rising interest in clean label from natural products (Nabeshima et al., 2024; Vasquez, 2024). North America and Europe remain the largest consumers of MCT oil, while the Asia-Pacific region has seen significant growth due to heightened health and wellness awareness and a burgeoning fitness culture.

Nonetheless, the Philippines, with its tropical climate and abundant coconut resources, is uniquely positioned as both a producer and consumer of MCT oil. The nation's coconut industry is still strong, producing 3.41 million metric tons in total between April and June 2023, a 1.5 % rise over the same period in 2022 (Philippine Statistics Authority [PSA], 2023). The Davao Region was the largest producer during this period, contributing 13.5 % of the national production, followed closely by Northern Mindanao and the Zamboanga Peninsula (PSA, 2023). Additionally, the area planted with coconuts expanded to 3.62 million hectares, a 0.6 % increase compared to the previous year.

Filipino demand for MCT oil is driven by both traditional uses of coconut oil and modern health trends. Historically, coconut oil has been a staple in Filipino households for cooking and medicinal purposes. In recent years, MCT oil has emerged as a preferred choice for those seeking to enhance their diet and overall well-being. Perceived as a natural and plant-based source of MCTs, coconut oil dominated the market in 2022, accounting for 43.5 % of revenue, indicating consumer preference for environmentally friendly, health-conscious options (Grand View Research, 2021).

Previous studies have explored oils and the application of conjoint analysis. Dijendragowda et al. (2023) conducted a study using conjoint analysis to investigate consumer preferences for virgin coconut oil (VCO) in Bangalore City. The research indicated that a significant portion of consumers were health-conscious, prioritizing the health benefits provided by VCO. This factor was identified as the most influential in their purchasing decisions, followed by brand recognition, and price. The findings underscored the significant influence of health benefits on consumer decision-making and indicate the need for marketing strategies that address the preferences of health-conscious consumers. Similarly, Toklu (2017) used conjoint analysis to determine the ranking of crucial factors influencing consumers' preferences for sunflower oil, including price, place of origin, production method, and brand. The study identified the country of origin as the most critical factor, impacting 40.55 % of purchasing decisions. Moreover, the results emphasized how important brand, price, production method, and origin are in influencing consumers' choices for sunflower oil (Toklu, 2017).

According to a study on ice cream goods by Wedowati et al. (2020), consumers value taste and texture (functionality), packaging material and form (usability), and appearance and health benefits (pleasure). This underscores the complex nature of consumer preferences, where both health and sensory factors significantly influence purchasing decisions. For instance, in a study by Yin (2024), it was observed that health-conscious consumers are increasingly drawn to products that promote wellness while still providing an enjoyable sensory experience, such as taste and texture. More recently, Saldaña et al. (2024) emphasized that the growing demand for health-conscious food products still

relies heavily on maintaining sensory appeal such as taste and texture in driving consumer preferences. This interplay between perceived health benefits and sensory appeal has been shown to drive consumer choices in food products, highlighting the importance of balancing both aspects in product development and marketing strategies (Routray et al., 2024).

Despite the extensive literature on consumer preferences for various products, no studies have specifically addressed consumer preferences for MCT Oil using a conjoint analysis approach. Addressing this gap is important as understanding Filipino consumer preferences for MCT oil will enable manufacturers and marketers to develop more targeted and effective strategies. Understanding these preferences is essential for manufacturers and marketers to create more targeted strategies. With the rising demand for MCT Oil due to its health benefits, identifying the key attributes such as price, product form, or packaging is crucial for product optimization.

Therefore, this study employed conjoint analysis to examine consumer preferences for MCT Oil as it represents a valuable and effective statistical tool used in market research to evaluate different product attributes (Eggers et al., 2018). By analyzing attributes like Certification, Sourcing Location, Flavor, Price Range, Product Form, Packaging Type, and Consumption – deemed important based on related studies, this research aimed to identify key factors influencing Filipino consumer preferences for MCT oil and quantify their impact on purchasing decisions. By matching product development and marketing tactics with customer needs, manufacturers and marketers will be able to improve product appeal and competitiveness in the market. Additionally, the insights gained from this study will enable manufacturers to tailor MCT oil products to meet specific consumer preferences, fostering innovation that aligns offerings with market demand (Grand View Research, 2021).

The findings can also assist businesses in effectively segmenting the market, allowing for targeted marketing efforts based on varying consumer demographics, which can enhance customer engagement and conversion rates (Camilleri, 2018). Furthermore, the study will provide valuable guidance for marketing and branding strategies by emphasizing key attributes that resonate with consumers, such as sustainable sourcing, health benefits, and product quality (Pícha and Navrátil, 2019). Beyond commercial applications, this research could contribute significantly to the development of the coconut industry in the Philippines, offering insights that inform policymakers and trade associations on promoting sustainable practices and local sourcing (Castillo and Ani, 2019). The implications of this study are extensive; businesses will be empowered to adopt customer-centric approaches, leading to enhanced product appeal and competitiveness (Pine and Gilmore, 2013), while consumers will benefit from a more diverse range of MCT oil products that cater to their health, ethical, and economic concerns (Klopčičet al., 2019). Overall, this research can create a positive impact on the MCT oil market, contributing to the economic well-being of local producers and improving consumer satisfaction and possible overall well-being.

2. Methodology

2.1. Attributes and levels

In selecting the attributes and levels for this study, several factors relevant to the MCT oil market and broader consumer preferences in food products were considered. These attributes were selected based on their established significance in prior studies related to food choice, health consciousness, sustainability, and consumer behavior.

Certifications such as “Organic” and “Non-GMO” play a crucial role in influencing consumer purchasing decisions, particularly among health-conscious and environmentally aware consumers (National Geographic, 2024). Organic products are perceived as healthier and more sustainable because they avoid synthetic pesticides, chemicals, and genetically modified organisms (GMOs), aligning with environmental and health trends (GrowinCo, 2024). Hempel and Hamm (2016)

elaborated that people who are inclined to consume organic-derived food products are regarded as organic-minded consumers. They have been assessed to willingly pay more for organic products and have stronger preferences on these types of food as they perceive it to be of high value and quality. Non-GMO labels are valued by consumers who prioritize natural products and safety, especially in food sectors like MCT oil, where purity and source quality matter significantly (NSF, 2024). Such certifications enhance trust and transparency between manufacturers and consumers, contributing to product differentiation in competitive markets (Chomps, 2024). This is because Kushwah et al. (2019) explained that people should have a perception of value obtained from consuming the product for this to be an important attribute among food preferences. Moreover, Hempel and Hamm (2016) tagged organic products to “local” products as evident in their findings on the importance of local food to organic-minded consumers.

Second, sourcing location is vital for products like MCT oil, where the source ingredient affects consumer perception, sustainability, and quality (Hunter and Gather, 2021). Coconut-derived MCT oil is widely preferred in regions like Southeast Asia, where consumers are familiar with the health benefits and the abundant local supply of coconut oil (Organic Verdana, 2023). In contrast, palm-based and mixed sources remain viable alternatives due to their cost-effectiveness and availability in the global market, but they often raise environmental and ethical concerns (Holland and Barrett, 2024). Palm oil production is frequently criticized for contributing to deforestation and habitat destruction, driving a preference for more sustainable coconut sources (Hunter and Gather, 2021). The sourcing of MCT oil can therefore align with the ethical consumption patterns emerging in many markets today (Verdana, 2023).

Third, flavor preferences are a key aspect of food product development and significantly impact the acceptance of functional products like MCT oil (Prado, 2023). Unflavored MCT oil allows for flexibility and adaptability in a range of culinary applications, while flavored options such as vanilla and coconut can enhance the sensory experience for consumers integrating MCT oil into smoothies, coffee, or baking (Watanabe and Tsujino, 2022). Research suggests that flavor preferences are linked not only to taste but also to cultural and habitual consumption patterns, making it a crucial factor in markets where consumers are health-oriented but also appreciate sensory quality (House et al., 2024).

Fourth, price is a well-documented determinant in consumer decision-making, particularly in the health food market (Zorbas et al., 2020). While premium prices are often associated with higher quality or specialized products like MCT oil, affordability is key to expanding market reach in developing economies such as the Philippines (Nordhagen and Demmler, 2023). Research indicated that price sensitivity varies between consumer segments, with health-conscious consumers willing to pay more for premium certifications, while the general population is more price-sensitive (Binkley and Bejnarowicz, 2003). Price range selection from ₱300-₱999 (\$5.27–\$17.54) covers both affordable and premium options, appealing to a broad spectrum of Filipino consumers (Lazada, 2024). These price points were derived from an analysis of current market data from popular platforms such as Shopee, Lazada, Watsons, and Mercury Drug - which showed that products in the lower price range (₱300-₱499 [\$5.27-\$8.76]) are more accessible to the mass market; while higher-priced options (₱800-₱999 [\$14.05-\$17.54]) cater to a niche, premium segment (Shopee, 2024). This selection allows for a comprehensive exploration of consumer preferences across various price tiers, offering valuable insights into the potential market reach of MCT oil products in the Philippines (Nordhagen and Demmler, 2023). This is because studies like that from Rizzo et al. (2023) implicated that price value is still a highly significant factor affecting consumption intention and preference among organic-minded consumers (Bajar et al., 2024; Hempel and Hemm, 2016).

Fifth, product form significantly influences the convenience and

usage preferences of consumers (Wang et al., 2023). Liquid MCT oil is commonly used for direct consumption or as an additive in food and beverages, while soft gel and powder forms cater to on-the-go consumers seeking portability and convenience (Link, 2024). Each form serves different consumer needs, with research showing that format often drives purchase decisions, particularly in functional foods where ease of use enhances the product’s appeal (Baker et al., 2022).

Sixth, packaging not only influences the product’s environmental footprint but also impacts consumer perceptions of quality and sustainability (Branca et al., 2024). Santos et al. (2021) provided interesting insights among consumers of organic product regarding the sustainability of packaging. It was implicated that there needs to be an increase in the promotion of sustainable packaging and environmental awareness. Their study, however, prompted that both environmental knowledge and concern did not prompt consumer’s purchase intention of organic products in sustainable packaging. This is because Vega-Zamora et al. (2014) and Santos et al. (2021) highlighted how consumers have been tagged to have motives driven by hedonistic and egoistic motives. Nonetheless, a variance of measurement for these attributes are still evident in purchasing intention and should still be considered for assessment among consumers since they vary due to cultural differences and countries (Bajar et al., 2024). Glass bottles, often associated with premium and eco-friendly products, provide a sense of sustainability, and are favored for their ability to preserve product integrity (NIQ, 2023). Conversely, plastic bottles offer practical benefits, including lower costs and convenience, which appeal to mass-market consumers (Feber et al., 2020). Sachet packaging provides single-use portions, enhancing portability and reducing waste, which is increasingly important to environmentally conscious consumers (Norton et al., 2022). Studies suggested that packaging plays a pivotal role in brand perception and consumer trust, especially in the food and beverage industry (Branca et al., 2024).

Lastly, the method of consumption reflects the consumer lifestyle and how they incorporate MCT oil into their diets (Safraid et al., 2024). Direct consumption is favored by consumers following specialized diets, such as ketogenic diets, due to the functional health benefits of MCT oil (Wiginton and Key, 2024). Alternatively, mixing MCT oil with food or beverages offers versatility for consumers seeking to enhance their meals with added nutritional value (Watanabe and Tsujino, 2022). The selected consumption methods align with prior research that highlighted the importance of aligning product offerings with consumer habits and lifestyle preferences (van Bussel et al., 2022).

By selecting these attributes and levels (Table 1), this study aimed to capture the diverse factors that influence Filipino consumer preferences for MCT oil. The combination of these attributes enabled a detailed analysis of the trade-off’s consumers are willing to make, providing insights that can guide product development, marketing, and positioning strategies for MCT oil manufacturers.

2.2. Participants

The survey was open for participation from August 2024 to October 2024. The sample size of 302 was deemed adequate based on several

Table 1
Attributes and levels.

Attributes	Levels
Certification	(1) Organic, (2) non-GMO
Sourcing	(1) Coconut, (2) Palm, (3) Mixed Sources
Location	
Flavor	(1) Unflavored, (2) Vanilla, (3) Coconut
Price Range	(1) ₱300-₱499, (2) ₱500-₱799, (3) ₱800-₱999
Product Form	(1) Liquid, (2) Soft gel, (3) Powder
Packaging Type	(1) Glass Bottle, (2) Plastic Bottle, (3) Sachet
Consumption	(1) Direct Consumption, (2) Mix with Food, (3) Mix with Beverage

factors supported by contemporary literature. In the context of conjoint analysis, a minimum sample size of 150 is generally recommended to provide sufficient statistical power and minimize sampling error, thereby enhancing the validity of findings in consumer preference research (Hair et al., 2010). This size is particularly advantageous for studies exploring multiple attributes, allowing for the identification of significant consumer preference patterns (Al-Omari et al., 2022). Furthermore, the diverse demographic representation concerning gender, age, income, and geographical location ensures the sample reflects the broader Filipino population, which is vital for producing generalizable insights regarding MCT oil preferences.

The purposive sampling method also boosts relevance by focusing on respondents who are knowledgeable about the product, enhancing the applicability of the findings to the target market (Sarstedt et al., 2019). Research has shown that sample sizes ranging from 200 to 400 are typical and sufficient for conducting effective conjoint analysis in market research contexts (Sawtooth Software, 2019). In this study, a total of 363 respondents were collected, but 302 only had valid and correct answers, complete responses, and were not considered as outliers. This resulted to an 83.2 % positive response rate that is deemed to be adequate (Hair et al., 2010). An online questionnaire using Google Forms was employed as this is viable for conjoint analysis with orthogonal design, creating real-life application for survey deployment (Sethuraman et al., 2005), which has been adopted by other studies as well (Ong et al., 2022).

This study employed purposive sampling approach to gather respondents via an online survey, targeting individuals who were familiar with or had previously consumed MCT oil thereby focusing on a specific demographic of Filipino consumers. Reflecting on the study by Silva et al. (2024), a filtering question of whether participants are familiar and are consuming MCT oils prompted for them to proceed with the overall instruction and survey. Specifically, the filtering question involved a question whether they “consumed MCT oils [Yes/No]”, then proceeded to a test question whether “coconut oils are examples of MCT oils [True/False]”. Correct answers would prompt to the complete instruction and information among respondents. Among the 302 respondents, 66.9 % identified as female and 33.1 % as male. The majority were in the age brackets of 18–34 years (83.77 %) and 35–54 years (11.59 %), indicating a trend toward younger health-conscious individuals who are typically more interested in functional food products like MCT oil (Hong et al., 2022). Younger consumers, particularly those aged 18–34, are significant users of MCT oil due to their health-conscious lifestyles and active interest in functional foods that promote wellness. These age groups are increasingly aware of the benefits of MCT oil such as improved energy, cognitive function, and weight management which align with their focus on fitness and specialized diets like keto and low-carb plans (Plasek et al., 2020). Their comfort with social media and digital platforms allows them to discover and share information about supplements through influencers and online communities, further increasing their likelihood of trying MCT oil (Flaherty et al., 2018).

Additionally, younger individuals tend to experiment with dietary supplements to optimize their health, often gravitating toward products that offer quick, noticeable results (Popp et al., 2021). Studies indicated that individuals in their 20 s and 30 s are proactive in maintaining and enhancing their physical and mental well-being, making them key consumers of functional food products (Lichtenstein et al., 2021). Their lifestyle preferences for efficiency and performance-oriented products make MCT oil a popular choice within this demographic.

Regarding income, approximately 84 % of the participants reported earning less than ₱15,000 (\$262.90) monthly, reflecting a range of economic backgrounds that are essential for analyzing price sensitivity concerning premium products (Martinho, 2020). The respondents predominantly hailed from urban and semi-urban regions, including 41 % from the National Capital Region (NCR), 31.8 % from Region III (Central Luzon), and 14.2 % from Region IV-A (CALABARZON). Such geographical distribution is significant, as these areas typically enjoy

better access to health-related products than rural counterparts, thus shedding light on regional variations in MCT oil consumption (Petrescu et al., 2020). Notably, 88.08 % of participants indicated that they consume MCT oil occasionally, aligning with trends observed in other health-focused products within emerging markets (Barska, 2023). Presented in Table 2 are the descriptive statistics of the collected respondents.

2.3. Statistical analysis

Conjoint analysis is a powerful statistical technique frequently used in market research to understand consumer preferences and their decision-making process. It works by presenting consumers with a set of attributes and requiring them to rank or choose between various product or service options (Fernando et al., 2023). Studies from recent years highlight its relevance across various industries. For instance, a study on consumer preferences in eco-friendly products emphasized that consumers prioritize green labels when making purchasing decisions, which helps businesses tailor product features to meet sustainability demands (Kulshreshtha et al., 2019). Another study functional foods by Annunziata and Vecchio (2013) presented that base products are the most significant attributes of functional foods with probiotics. It was also evident that the most valuable attribute is the prevention claims that are

Table 2
Descriptive statistics of the respondents (n = 302).

Characteristics	Category	n	%
Gender	Male	202	66.90 %
	Female	100	33.10 %
Age	18–34	253	83.77 %
	35–54	35	11.59 %
	55 and above	14	4.64 %
Monthly Salary/ Allowance	₱15,000 (\$262.90) Below	148	49.00 %
	₱15,000–₱30,000 (\$262.90–\$525.74)	70	23.20 %
	₱30,001–₱45,000 (\$525.83–\$788.71)	32	10.60 %
	₱45,001–₱60,000 (\$788.73–\$1051.62)	19	6.30 %
	₱60,001–₱75,000 (\$1051.72–\$1314.62)	17	5.60 %
	₱75,000 (\$1314.62) Above	16	5.30 %
	Region I – Ilocos Region	6	2.00 %
Location	Region II – Cagayan Valley	5	1.70 %
	Region III – Central Luzon	96	31.80 %
	Region IV-A – CALABARZON	43	14.20 %
	MIMAROPA Region	2	0.70 %
	Region V – Bicol Region	2	0.70 %
	Region VI – Western Visayas	2	0.70 %
	Region VII – Central Visayas	4	1.30 %
	Region VIII – Eastern Visayas	1	0.30 %
	Region IX – Zamboanga Peninsula	1	0.30 %
	Region X – Northern Mindanao	1	0.30 %
	Region XI – Davao Region	4	1.30 %
	Region XII – SOCCSKSARGEN	1	0.30 %
	Region XIII – Caraga	3	1.00 %
	NCR – National Capital Region	125	41.00 %
	CAR – Cordillera Administrative Region	4	1.30 %
	BARMM – Bangsamoro Autonomous Region in Muslim Mindanao	2	0.70 %
How frequently do you consume MCT oil?	Sometimes	266	88.08 %
	Frequent	27	8.94 %
	Usual	9	2.98 %

perceived with probiotic-containing functional food. This insight helps firms in product development and design by identifying the attributes that are most important to consumers, ultimately allowing businesses to create products that align with consumer desires and maximize customer satisfaction (Park and Chang, 2022).

Moreover, conjoint analysis can be applied in pricing strategy, as it reveals how consumers react to price changes, helping businesses set competitive yet profitable price points (Orme, 2021). It is also valuable for market segmentation, offering insights into how different customer segments prioritize product attributes, which enables companies to tailor marketing strategies to specific groups (Dolnicar et al., 2018). The applications of conjoint analysis span various areas, including marketing research, where it is used to understand customer priorities, predict the success of new product features, and guide marketing strategies (Beacom et al., 2022). Firms also employ conjoint analysis in product design and development to optimize product attributes based on market demand, as well as in pricing and branding decisions, where the technique informs how to price products or choose branding strategies that resonate with customers (Klopčič et al., 2019).

The conjoint analysis in this study was conducted using IBM SPSS version 27, incorporating an orthogonal design to generate a manageable set of stimuli (Hair et al., 2010; Ong et al., 2022). This design, commonly used in consumer research, ensures that participants evaluate a reasonable number of product combinations, which enhances the study's statistical efficiency (Kiygi Calli and Kilic, 2019). In total, 29 stimuli were generated for this research (Table 3), each representing unique combinations of MCT oil attributes. These were evaluated using a 7-point Likert scale, where 1 represented “strongly disagree” and 7 represented “strongly agree,” reflecting consumer preferences across multiple dimensions (Hair et al., 2010).

2.4. Experimental design generation

The stimuli (Table 3) included key product attributes such as certification (e.g., Organic or Non-GMO), sourcing (e.g., Coconut or Palm), flavor (e.g., Coconut or Vanilla), price, product form (e.g., Powder, Liquid, or Soft Gel), packaging (e.g., Plastic Bottle or Sachet), and

intended consumption method (e.g., Direct Consumption or Mixed with Food or Beverage). The design employed in this study was structural in nature, similar to the battery statement (slide 8) from Jaeger et al. (2024). The provided information, instruction, and discernment of the attributes, levels, and combinations were presented clearly among respondents and the textural representation of each combination was structured and assessed using a 7-point Likert Scale to employ a least to highly preferred product dimension (Hair et al., 2010). The combination representation is per card presentation to respondents (textually after information was given, deployed using Google Forms (similar to Ong et al., 2022; Hair et al., 2010) as seen in Fig. 1.

This study then employed the syntax for generating the output after the data collection process. Presented in Table 4 is the code utilized in this study to generate the output following the IBM SPSS manual and Kuzmanovic et al. (2011).

3. Results

Table 5 presents the average importance scores which revealed that price was the most critical factor with an importance value of 40.008. Packaging followed with 21.104, emphasizing its role in consumer decisions. Certification (14.316) also played a significant part, though less critical than price and packaging. Other factors such as product form (11.334), consumption method (6.471), sourcing location (4.145), and flavor (2.622) had smaller but noticeable influences on consumer choices.

The analysis of consumer preferences using conjoint analysis provided valuable insights into the importance and utility of various attributes related to MCT oil. Table 6 shows the utility scores assigned to each level of the attributes, highlighting consumer preferences. Organic certification held a higher utility estimate (0.07) compared to non-GMO (−0.07), indicating a preference for organic products. For sourcing location, coconut sources were preferred (0.026) over palm (−0.012) and mixed sources (−0.014). In terms of flavor, vanilla (0.011) and coconut (0.003) flavors were favored over unflavored options (−0.014). Price had the most significant impact on consumer choices, with the lowest price range of ₱300–₱499 receiving the highest utility (0.19),

Table 3
Stimulus.

CARD	Certification	Sourcing Location	Flavor	Price	Product Form	Packaging	Consumption
1	Non-GMO	Palm (Source)	Vanilla Flavor	₱300 - ₱499	Powder Form	Plastic Bottle Packaging	Direct Consumption
2	Organic	Mixed Sources	Vanilla Flavor	₱500 - ₱799	Soft Gel Form	Plastic Bottle Packaging	Mix with Food
3	Organic	Coconut (Source)	Unflavored	₱300 - ₱499	Powder Form	Plastic Bottle Packaging	Mix with Beverage
4	Organic	Mixed Sources	Vanilla Flavor	₱500 - ₱799	Powder Form	Glass Bottle Packaging	Mix with Beverage
5	Non-GMO	Coconut (Source)	Vanilla Flavor	₱800 - ₱999	Soft Gel Form	Glass Bottle Packaging	Direct Consumption
6	Non-GMO	Mixed Sources	Coconut Flavor	₱300 - ₱499	Liquid Form	Glass Bottle Packaging	Mix with Beverage
7	Organic	Mixed Sources	Coconut Flavor	₱300 - ₱499	Powder Form	Plastic Bottle Packaging	Mix with Food
8	Organic	Mixed Sources	Unflavored	₱800 - ₱999	Powder Form	Sachet Packaging	Direct Consumption
9	Organic	Coconut (Source)	Coconut Flavor	₱500 - ₱799	Powder Form	Glass Bottle Packaging	Direct Consumption
10	Organic	Coconut (Source)	Coconut Flavor	₱500 - ₱799	Liquid Form	Sachet Packaging	Mix with Food
11	Organic	Coconut (Source)	Vanilla Flavor	₱800 - ₱999	Liquid Form	Plastic Bottle Packaging	Mix with Beverage
12	Non-GMO	Palm (Source)	Unflavored	₱500 - ₱799	Powder Form	Glass Bottle Packaging	Mix with Food
13	Non-GMO	Mixed Sources	Vanilla Flavor	₱500 - ₱799	Liquid Form	Sachet Packaging	Direct Consumption
14	Non-GMO	Coconut (Source)	Unflavored	₱800 - ₱999	Liquid Form	Glass Bottle Packaging	Mix with Food
15	Organic	Mixed Sources	Coconut Flavor	₱300 - ₱499	Soft Gel Form	Sachet Packaging	Direct Consumption
16	Non-GMO	Coconut (Source)	Unflavored	₱300 - ₱499	Soft Gel Form	Sachet Packaging	Mix with Food
17	Organic	Palm (Source)	Vanilla Flavor	₱300 - ₱499	Soft Gel Form	Sachet Packaging	Mix with Beverage
18	Organic	Coconut (Source)	Vanilla Flavor	₱800 - ₱999	Powder Form	Sachet Packaging	Mix with Food
19	Organic	Palm (Source)	Unflavored	₱500 - ₱799	Soft Gel Form	Plastic Bottle Packaging	Direct Consumption
20	Non-GMO	Coconut (Source)	Vanilla Flavor	₱300 - ₱499	Powder Form	Glass Bottle Packaging	Direct Consumption
21	Organic	Mixed Sources	Unflavored	₱800 - ₱999	Soft Gel Form	Glass Bottle Packaging	Mix with Beverage
22	Non-GMO	Palm (Source)	Coconut Flavor	₱800 - ₱999	Powder Form	Sachet Packaging	Mix with Beverage
23	Non-GMO	Coconut (Source)	Coconut Flavor	₱500 - ₱799	Soft Gel Form	Plastic Bottle Packaging	Mix with Beverage
24	Non-GMO	Mixed Sources	Unflavored	₱800 - ₱999	Liquid Form	Plastic Bottle Packaging	Mix with Food
25	Organic	Palm (Source)	Coconut Flavor	₱800 - ₱999	Liquid Form	Plastic Bottle Packaging	Direct Consumption
26	Organic	Palm (Source)	Unflavored	₱500 - ₱799	Liquid Form	Sachet Packaging	Mix with Beverage
27	Organic	Palm (Source)	Vanilla Flavor	₱300 - ₱499	Liquid Form	Glass Bottle Packaging	Mix with Food
28	Organic	Coconut (Source)	Unflavored	₱300 - ₱499	Liquid Form	Glass Bottle Packaging	Direct Consumption
29	Organic	Palm (Source)	Coconut Flavor	₱800 - ₱999	Soft Gel Form	Glass Bottle Packaging	Mix with Food

This covers the combinations formed from the following components of MCT Oil:

Certification: (1) Organic, (2) Non-GMO

Sourcing Location: (1) Coconut, (2) Palm, (3) Mixed Sources

Flavor: (1) Unflavored, (2) Vanilla, (3) Coconut

Price Range: (1) ₱300-₱499, (2) ₱500-₱799, (3) ₱800-₱999


Product Form: (1) Liquid, (2) Soft gel, (3) Powder

Packaging Type: (1) Glass Bottle, (2) Plastic Bottle, (3) Sachet

Consumption: (1) Direct Consumption, (2) Mix with Food, (3) Mix with Beverage

The preference of the consumers will be assessed through the demonstrated combinations below.

Respondents will express their agreement or disagreement with each combination on a 7-point scale, that ranges 1 = strongly disagree to 7 = strongly agree.



(1) Non-GMO + Palm (Source) + Vanilla Flavor + ₱300 - ₱499 + Powder Form + Plastic Bottle *
Packaging + Direct Consumption

1 2 3 4 5 6 7

Strongly Disagree ☐ ☐ ☐ ☐ ☐ ☐ ☐ Strongly Agree

Fig. 1. Sample deployment of questionnaire.

Table 4

Syntax for result generation.

```
CONJOINT PLAN = 'file location\ConjointStimuli.sav'
/DATA = 'file location\DataCollected.sav'
/SCORE = COM1 to COM29
/FACTORS = Certification SourcingLocation Flavor Price ProductForm Packaging Consumption
/Print = SUMMARYONLY/UTILITY = 'file location\Results.sav'
```

Table 5

Average importance score.

Attributes	Importance Values
Certification	14.316
Sourcing Location	4.145
Flavor	2.622
Price	40.008
Product Form	11.334
Packaging	21.104
Consumption	6.471

while mid-range (₱500-₱799: 0.011) and high-range (₱800-₱999: -0.202) prices were less attractive.

Table 7 showcases the ranking of 29 stimuli based on consumer preferences, with combination 28 emerging as the top choice. This combination, which featured attributes such as Organic certification,

Coconut (Source), Unflavored, ₱300 - ₱499 price range, Liquid Form, Glass Bottle Packaging, and Direct Consumption was identified as the most preferred option by respondents. Conversely, combination 8 ranked the lowest, indicating the least favorable choice for consumers. This combination included Organic certification, Mixed Sources, Unflavored, ₱800 - ₱999 price range, Powder Form, Sachet Packaging, and Direct Consumption.

Table 8 displays the correlation of the stimuli generated in this study, with Pearson's R value at 0.971 and Kendall's Tau value at 0.862. These values, being close to 1, suggest a strong positive correlation between the observed and estimated consumer preferences – resulting to a valid and reliable result (Hair et al., 2010). Additionally, to ensure the reliability of the responses in conjoint analysis, this study included two holdouts (Ong et al., 2022). Holdouts are presented as part of the combination created in the stimuli, generated by the automated orthogonal design by the software to ensure consistency, validity, and reliability of the combination in accordance with the response. The

Table 6

Utilities.

Attributes	Levels	Utility Estimate	Std. Error
Certification	Organic	0.07	1.50 %
	Non-GMO	−0.07	1.50 %
Sourcing Location	Coconut (Source)	0.026	2.00 %
	Palm (Source)	−0.012	2.00 %
	Mixed Sources	−0.014	2.00 %
Flavor	Unflavored	−0.014	2.00 %
	Vanilla Flavor	0.011	2.00 %
	Coconut Flavor	0.003	2.00 %
Price	₱300-₱499	0.19	2.00 %
	₱500-₱799	0.011	2.00 %
	₱800-₱999	−0.202	2.00 %
Product Form	Liquid Form	0.069	2.00 %
	Soft Gel Form	−0.028	2.00 %
	Powder Form	−0.042	2.00 %
Packaging	Glass Bottle Packaging	0.12	2.00 %
	Plastic Bottle Packaging	−0.033	2.00 %
	Sachet Packaging	−0.087	2.00 %
Consumption	Direct Consumption	−0.028	2.00 %
	Mix with Food	−0.006	2.00 %
	Mix with Beverage	0.035	2.00 %

Kendall’s coefficient for these holdouts was calculated to be 1.000, further confirming the consistency and high quality of the collected data, as the values indicate a perfect agreement between actual and estimated responses.

4. Discussion

The results of this study provide valuable insights into consumer preferences for various product attributes in MCT oil products. The optimal combination of attributes, based on utility scores, includes organic certification from coconut-sourced MCT oil with vanilla flavor, priced between ₱300 - ₱499, in liquid form, packaged in a glass bottle, and consumed by mixing with beverages. This combination yielded the highest total utility score of 0.541, reflecting the strong preference for organic certification and the appealing aspects of flavor and packaging.

Table 7

Rank of the stimulus.

CARD	Cerification	SourcingLocation	Flavor	Price	ProductForm	Packaging	Consumption	Total	Rank
1	Non-GMO	Palm (Source)	Vanilla Flavor	₱300 - ₱499	Powder Form	Plastic Bottle Packaging	Direct Consumption	0.072	16
2	Organic	Mixed Sources	Vanilla Flavor	₱500 - ₱799	Soft Gel Form	Plastic Bottle Packaging	Mix with Food	−0.06	21
3	Organic	Coconut (Source)	Unflavored	₱300 - ₱499	Powder Form	Plastic Bottle Packaging	Mix with Beverage	0.396	4
4	Organic	Mixed Sources	Vanilla Flavor	₱500 - ₱799	Powder Form	Glass Bottle Packaging	Mix with Beverage	0.123	13
5	Non-GMO	Coconut (Source)	Vanilla Flavor	₱800 - ₱999	Soft Gel Form	Glass Bottle Packaging	Direct Consumption	0.133	12
6	Non-GMO	Mixed Sources	Coconut Flavor	₱300 - ₱499	Liquid Form	Glass Bottle Packaging	Mix with Beverage	0.405	3
7	Organic	Mixed Sources	Coconut Flavor	₱300 - ₱499	Powder Form	Plastic Bottle Packaging	Mix with Food	0.1	14
8	Organic	Mixed Sources	Unflavored	₱800 - ₱999	Powder Form	Sachet Packaging	Direct Consumption	−0.39	29
9	Organic	Coconut (Source)	Coconut Flavor	₱500 - ₱799	Powder Form	Glass Bottle Packaging	Direct Consumption	0.324	6
10	Organic	Coconut (Source)	Coconut Flavor	₱500 - ₱799	Liquid Form	Sachet Packaging	Mix with Food	0.25	8
11	Organic	Coconut (Source)	Vanilla Flavor	₱800 - ₱999	Liquid Form	Plastic Bottle Packaging	Mix with Beverage	0.14	11
12	Non-GMO	Palm (Source)	Unflavored	₱500 - ₱799	Powder Form	Glass Bottle Packaging	Mix with Food	0.043	17
13	Non-GMO	Mixed Sources	Vanilla Flavor	₱500 - ₱799	Liquid Form	Sachet Packaging	Direct Consumption	−0.04	20
14	Non-GMO	Coconut (Source)	Unflavored	₱800 - ₱999	Liquid Form	Glass Bottle Packaging	Mix with Food	0.227	10
15	Organic	Mixed Sources	Coconut Flavor	₱300 - ₱499	Soft Gel Form	Sachet Packaging	Direct Consumption	0.038	18
16	Non-GMO	Coconut (Source)	Unflavored	₱300 - ₱499	Soft Gel Form	Sachet Packaging	Mix with Food	0.315	7
17	Organic	Palm (Source)	Vanilla Flavor	₱300 - ₱499	Soft Gel Form	Sachet Packaging	Mix with Beverage	0.095	15
18	Organic	Coconut (Source)	Vanilla Flavor	₱800 - ₱999	Powder Form	Sachet Packaging	Mix with Food	−0.07	22
19	Organic	Palm (Source)	Unflavored	₱500 - ₱799	Soft Gel Form	Plastic Bottle Packaging	Direct Consumption	−0.12	24
20	Non-GMO	Coconut (Source)	Vanilla Flavor	₱300 - ₱499	Powder Form	Glass Bottle Packaging	Direct Consumption	0.511	2
21	Organic	Mixed Sources	Unflavored	₱800 - ₱999	Soft Gel Form	Glass Bottle Packaging	Mix with Beverage	−0.1	23
22	Non-GMO	Palm (Source)	Coconut Flavor	₱800 - ₱999	Powder Form	Sachet Packaging	Mix with Beverage	−0.32	28
23	Non-GMO	Coconut (Source)	Coconut Flavor	₱500 - ₱799	Soft Gel Form	Plastic Bottle Packaging	Mix with Beverage	0.248	9
24	Non-GMO	Mixed Sources	Unflavored	₱800 - ₱999	Liquid Form	Plastic Bottle Packaging	Mix with Food	−0.2	26
25	Organic	Palm (Source)	Coconut Flavor	₱800 - ₱999	Liquid Form	Plastic Bottle Packaging	Direct Consumption	−0.22	27
26	Organic	Palm (Source)	Unflavored	₱500 - ₱799	Liquid Form	Sachet Packaging	Mix with Beverage	−0.01	19
27	Organic	Palm (Source)	Vanilla Flavor	₱300 - ₱499	Liquid Form	Glass Bottle Packaging	Mix with Food	0.358	5
28	Organic	Coconut (Source)	Unflavored	₱300 - ₱499	Liquid Form	Glass Bottle Packaging	Direct Consumption	0.597	1
29	Organic	Palm (Source)	Coconut Flavor	₱800 - ₱999	Soft Gel Form	Glass Bottle Packaging	Mix with Food	−0.14	25

The price point also played a critical role, as it is seen as affordable without compromising quality.

Conversely, the least favorable combination of attributes was non-GMO certification from mixed sources MCT oil, unflavored, in powder form, priced between ₱800 - ₱999, packaged in sachets, and consumed directly. This combination had the lowest utility score of a negative value of −0.443. Key factors that contributed to this negative score include the higher price, less appealing packaging, and a less favorable consumption method.

Price remains the most significant factor influencing consumer decision-making, with an importance value of 40.008. Competitive pricing is critical in shaping consumer preferences, especially when considering other product attributes such as packaging and certification (Swaminathan, 2016). Consumers often prioritize affordability, particularly when products offer additional health or environmental benefits. This highlights the importance of balancing cost with perceived value to achieve market success (Yener, 2022). In the context of MCT oil, price sensitivity is especially pronounced in developing countries like the Philippines, where economic factors often limit purchasing power. As a result, affordability becomes a key determinant in consumer behavior, even for health-conscious buyers seeking premium attributes (Nordhagen and Demmler, 2023). Nonetheless, studies like that from Rizzo et al. (2023) highlighted how consumers are still willing to purchase higher price organic and sustainable products as perceived to be healthier and is the common choice among organic-minded consumers (Hempel and Hamm, 2016).

This finding aligns with previous research on oils such as Toklu (2017) on sunflower oil, which identified price as a major factor in

Table 8

Correlation.

Parameter	Value	Significance
Pearson’s R	0.971	0.000
Kendall’s Tau	0.862	0.000
Kendall’s Tau for Holdouts	1.000	0.000

consumer decisions. In that study, consumers favored affordable products while still considering quality and health benefits. These insights suggest that even in health-oriented markets, price serves as a limiting factor that influences purchasing behavior, particularly in price-sensitive mass-market segments. Therefore, manufacturers of MCT oil must focus on maintaining affordability while ensuring product quality to capture a broader consumer base (BCG, 2021).

Packaging ranked second with an importance value of 21.104. Consumers express a clear preference for glass bottle packaging over plastic and sachet options, likely due to environmental concerns and the perception that glass signifies higher product quality. Glass bottles are often associated with premium products and resonate with consumers' increasing demand for eco-friendly, sustainable choices. This is supported by research from Naderi and Van Steenburg (2018) and Barbu et al. (2022), which indicated that eco-friendly packaging can significantly enhance consumer trust and help brands stand out in competitive markets. Studies by Shahwar et al. (2024) and Norton et al. (2022) further emphasized on the role of packaging in fostering consumer trust and shaping brand perception.

In contrast, plastic bottles, while more cost-effective and practical, appeal to a broader consumer base due to their convenience. Studies on food products, such as Wedowati et al. (2020) on ice creams, also demonstrated that packaging plays a key role in influencing consumer choices, contributing to both usability and product aesthetics. Contrary to the positive and high significance, Santos et al. (2021) presented that environmental concern and knowledge among sustainable packaging did not significantly affect purchasing intention of organic products. Nonetheless, this was a high measurement representing purchasing intention, and industries should promote, enhance, and develop more sustainable packaging for food products as consumers are more inclined to consider these types of products due to heuristic cues (Bajar et al., 2024; Vega-Zamora et al., 2014).

Certification ranked third, with an importance value of 14.316. This underscores the growing consumer demand for transparency and trust in product sourcing. Consumers prefer organic certifications over non-GMO labels, reflecting increasing concerns about health and sustainability. This trend mirrors global consumer behavior, where organic products are often viewed as healthier and more environmentally responsible (Ariffin et al., 2016; Li and Kallas, 2021). Organic labels provide reassurance that products are free from synthetic chemicals, which resonates particularly with health-conscious consumers. Health-conscious buyers also tend to seek certifications that verify the absence of synthetic chemicals or genetically modified organisms (Pereira, 2022). As Kushwah et al. (2019) explained, organic-minded consumers are highly motivated to consumer organic products than non-GMO due to different motives like value consumers perceived in the organic products (social, functional, epistemic, conditional, and emotional values).

People generally are curious, choose products depending on the situation, evoke of positive and negative emotions, effect on social status, and functional features that are advantageous among consumers. That is, Hempel and Hamm (2016) further implicated that local products are more desirable as it related to "organic" products as implicated by the organic-minded consumers. They found that the value provided from consuming the product is a more desired attribute – relating it to organic product than the product being organically-derived. Research by Dijendragowda et al. (2023) further confirms that health benefits play a significant role in purchasing decisions for similar products, like virgin coconut oil.

Product form ranked fourth with an importance value of 11.334, also plays a notable role in consumer preferences for MCT oil, though it ranks lower than price and packaging. Liquid forms are preferred over powders and soft gels, likely due to their ease of use and faster absorption. This trend aligns with findings in studies on dietary supplements, where liquids are favored for their convenience and versatility (Karelakis et al., 2019). Liquid MCT oil is particularly appealing because it can easily be

incorporated into beverages or meals, offering flexibility in daily consumption. Baker et al. (2022) also found that product format is a key factor in purchasing decisions for functional foods. While powder and soft gel forms offer portability and portion control (NMI, 2021), liquid MCT oil remains popular for its ease of use, especially among health-conscious consumers (Khan and Pandey, 2023).

The consumption method ranked fifth with an importance value of 6.471 also influences consumer preferences for MCT oil, though it is less important than price, packaging, and product form. Consumers tend to favor incorporating MCT oil into beverages rather than consuming it directly, which highlights the importance of convenience and versatility (Khan and Pandey, 2023). This suggests that consumers prefer products that integrate seamlessly into their daily routines, adding nutritional value to their meals and drinks. This is consistent with research by Safraid et al. (2024), which found that individuals on specialized diets, such as the ketogenic diet, may opt for direct consumption to meet specific health goals. Meanwhile, those not adhering to such dietary plans typically prefer to use MCT oil as an additive in beverages (Watanabe and Tsujino, 2022). These different consumption methods emphasize the product's versatility and broaden its market appeal.

Sourcing location ranked sixth with an importance value of 4.145, particularly whether the MCT oil is derived from coconuts or mixed sources, also plays a role in consumer choices. Coconut-derived MCT oil is linked to natural and traditional health benefits, especially in Southeast Asian countries (Hunter and Gather, 2021). Ethical and environmental concerns surrounding palm oil production drive consumer preferences for coconut-sourced MCT oil. Studies like Holland and Barrett's (2024) have highlighted sustainability concerns related to palm oil. While sourcing location is a factor, it holds less weight compared to more immediate product attributes like price and packaging.

Finally, flavor, while the least important attribute, still plays a role in consumer preferences. Unflavored MCT oil is generally preferred because it can be easily added to a variety of dishes without affecting taste. However, flavored options, such as vanilla or coconut, can enhance the sensory experience for consumers who prefer to consume MCT oil directly (Watanabe and Tsujino, 2022). Previous research on functional food products, such as Yin (2024), found that sensory appeal, including taste and texture, plays a role in attracting health-conscious consumers, though it is not the primary driver for supplements like MCT oil.

5. Implications

5.1. Theoretical implications

This study contributes significantly to the understanding of Filipino consumer preferences for MCT oil, elucidating the relative importance of various product attributes including price, packaging, certification, product form, consumption method, sourcing location, and flavor. Through the application of conjoint analysis, the research highlights that price emerges as the most critical factor influencing consumer decisions, underscoring the significance of affordability in product choice particularly in developing markets like the Philippines. Additionally, the findings revealed a notable increase in consumer demand for sustainable packaging—specifically glass bottles—and organic certification, which are essential for fostering trust and aligning with current environmental and health-conscious trends.

Moreover, the study enriches existing literature on consumer behavior within the health and wellness sector, particularly regarding functional foods and dietary supplements. The insights gained provide practical guidance for manufacturers and marketers, enabling them to position MCT oil products effectively by emphasizing the attributes that resonate most with consumers such as price competitiveness, sustainability, and health certifications. On the other hand, comparing the output of this study to related literatures, it is evident that several gaps

were determined. For example, [Annunziata and Vecchio \(2013\)](#) considered only products that focused only on functional food with probiotics. Despite its significance in the health-related food products, not all have probiotics and not all individuals may understand the benefits. Aligning with recent studies that underscored people's perception and action for healthy food choices and options like future foods and/or supplements (i.e., MCT oils) ([He et al., 2024](#); [Lin et al., 2021](#)), it could be said that reliability of food through certification, sustainable packaging, and product form for preference of consumption were widely attributed for consumption.

Despite existing studies on the positive results of health benefits and dietary consumption ([Liu, 2008](#)), structure and synthesis of MCT in foods ([Watanabe and Tsujino, 2022](#)), as well as application of MCT in the food industry ([Nimbkar et al., 2022](#)), there is little known studies that considered the analysis of consumption and preference among consumers. This study is posited to be valuable since food industries and marketing strategies could be built due to advancement and understanding of the evident positive results of MCT oil consumption, as well as attributes and levels measured for preference as seen in this study; alongside literatures evidently presenting positive health benefits. Thus, theoretical contribution of this study filled the gap on the consumer assessment – generating positive response and output for understanding consumption preference for MCT oils.

5.2. Practical implications

The results of this study have several practical applications for businesses operating within the health and wellness, functional foods, and dietary supplements sectors. Manufacturers can leverage on these findings to prioritize the development of liquid-form MCT oil packaged in glass containers, catering to consumers who value convenience and eco-friendliness. Additionally, placing emphasis on organic certification and sourcing from coconuts—an origin associated with traditional health benefits—can enhance product appeal.

In light of these findings, businesses could implement several actionable strategies to enhance consumer engagement and market success for MCT oil products. First, introducing tiered product lines would allow brands to cater to different consumer segments based on their budget and lifestyle preferences. For instance, offering an entry-level liquid MCT oil in recyclable plastic packaging could appeal to cost-conscious buyers, while premium options in glass containers would attract eco-conscious consumers willing to pay for sustainable packaging. Additionally, a refill program for glass bottles could be launched in partnership with select retail outlets, promoting a sustainable purchasing cycle and enhancing customer retention.

From a marketing perspective, companies can adopt competitive pricing strategies that resonate with price-sensitive consumers, particularly in developing markets. Furthermore, highlighting the sustainability of glass packaging and the health benefits associated with organic MCT oil can help distinguish products in a crowded marketplace. To effectively reach price-sensitive consumers in developing markets, companies could implement targeted discounts or promotional offers on MCT oil products during major sales events and seasonal campaigns, such as online shopping sales or health and wellness fairs.

Retailers could also provide bundle deals by packaging MCT oil with complementary products, like protein powders or health supplements, which encourages consumers to explore broader product offerings at an attractive price point. To emphasize the environmental benefits of glass packaging, businesses might consider adopting eco-labeling on their products and using terms like “recyclable” or “sustainably sourced” directly on packaging to appeal to environmentally aware consumers. Creating QR codes on labels that link to short videos about the eco-friendliness of glass and organic coconut sourcing could further enhance transparency and attract eco-conscious customers. Additionally, offering return-and-refill programs in partnership with local retailers, or launching subscription services for glass-packaged products

with discounts on refills, can establish brand loyalty among consumers interested in reducing waste and supporting sustainability. These marketing initiatives would not only reinforce the health and environmental values associated with MCT oil but also encourage a positive perception of the brand's commitment to eco-friendly practices.

Retailers can optimize their product placement strategies by ensuring that MCT oil products meet the most critical consumer demands such as affordability, sustainability, and certified organic options. Retailers could enhance shelf visibility by positioning MCT oil products in highly trafficked sections of the store, such as near health food aisles or natural product displays. For example, end-cap displays (located at the ends of aisles) and eye-level shelving can capture more customer attention, especially when products are placed next to complementary items like other wellness supplements. Additionally, creating shelf labels or signs highlighting key product benefits such as “organic,” “eco-friendly glass packaging,” or “certified sustainable” can further encourage customer interest.

Retailers can also offer samples or demonstrations for flavored MCT oil options to introduce customers to new varieties, especially in stores with high foot traffic. Organizing in-store or online promotions that focus on educating customers about the different forms of MCT oil such as liquid, powder, and soft gels and their unique benefits (e.g., portability of soft gels, versatility of liquids) could also cater to diverse consumer preferences. It may also be beneficial to offer flavored varieties to cater to niche markets while maintaining a diverse range of product forms including liquid, powder, and soft gels, to address varying consumer preferences.

6. Conclusion

The popularity of MCT oil as a dietary supplement has surged globally, particularly in health-conscious markets. This study applied conjoint analysis using an orthogonal design to explore consumer preferences for various attributes of MCT oil. A sample of 302 respondents evaluated a total of 29 different attribute combinations to identify the factors most influential in their purchasing decisions. Attributes analyzed included price, packaging material, certification type, product form, sourcing location, flavor, and consumption method.

The results revealed that price was the most significant factor affecting consumer choice, underscoring the price sensitivity within the target demographic. This was followed by preferences for packaging material, with glass packaging ranking higher due to perceived sustainability and quality. Certification type, specifically organic certification, and the product form, with a preference for liquid form, were also prominent factors in consumer decision-making. Flavor and consumption method ranked lower in importance, indicating that while some sensory preferences exist, they are less decisive compared to health-focused and sustainable features.

This study represents a comprehensive investigation of consumer preferences for MCT oil attributes, making it valuable for both academics and industry professionals seeking insights into consumer behavior in the health supplement market. Future research could expand this study by exploring other regional markets and by applying the findings to different dietary supplements to better understand the evolving demands of health-oriented consumers.

6.1. Limitations and future research

Although this study provides significant information, it has limitations that highlight areas for future research. The study's focus on Filipino consumer preferences may limit its generalizability. Future research could expand to other Southeast Asian countries or global markets to identify similar preferences, particularly in terms of price sensitivity and demand for sustainable packaging. Second, with the orthogonal limitations, the study focused on a limited range of qualities ([Ong et al., 2022](#)). Future studies might include brand reputation,

marketing influences, and ethical sourcing certifications to gain a better understanding of customer behavior for MCT oil and other functional foods.

While the sample size of 302 respondents provides a robust basis for analysis when dealing with conjoint analysis (Hair et al., 2010), further studies could benefit from larger and more diverse demographic samples to investigate how preferences differ across age groups, income levels, or educational backgrounds. Moreover, another limitation is the use of contextual structure of survey, and it is suggested that future research consider product illustration for better insight and implication among respondents. Lastly, consumer preferences may evolve over time, especially as sustainability trends progress. Longitudinal studies could be employed to track shifts in preferences and to understand how various factors—such as economic conditions or health trends—influence consumer behavior over the long term.

CRediT authorship contribution statement

Genard Paul R. Bajacan: Writing – review & editing, Writing – original draft, Visualization, Validation, Software, Resources, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Ardvin Kester S. Ong:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **John Francis T. Diaz:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Maela Madel L. Cahigas:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Ma.Janice J. Gumasing:** Writing – original draft, Visualization, Validation, Supervision, Resources, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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