

Factors Affecting Purchase Intention and Consumption of Plant-Based Food Products for the Elderly and Product Development Guidelines: Bangkok Metropolitan

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Abstract

Background and Aim: From the results of the study, the researchers proposed guidelines for developing plant-based food products by focusing on meeting the motivation of the elderly, emphasizing nutritional value, safety, appropriate packaging, providing clear information, and setting prices that were consistent with purchasing power. In addition, marketing communication strategies were used to create awareness and stimulate confidence in the product in the long term. **Materials and Methods:** The sample group consisted of 400 elderly people aged 60 years and over living in Bangkok. The sampling method employed was quota sampling, which was a non-probability sampling technique. The instrument used was a questionnaire. The statistics used for analysis included frequency, percentage, mean, standard deviation, F-test, and multiple regression analysis. **Results of the Study:** Factors of purchasing motivation, product confidence, attitude, price, distribution channels, and products were all statistically associated with the purchasing intention of the elderly ($p < .05$). The regression model could explain the behavior by 89.10 percent ($R^2 = .891$). In addition, it was found that factors of status and average monthly income had significantly different effects on purchasing intention. The study showed that marketing mix and psychological factors were strongly associated with plant-based food purchase intentions among surveyed elderly people in Bangkok. The results offered guidance for developing nutritious, affordable, and trusted products for Thailand's aging consumers.

Keywords: Marketing; Psychological; Purchase Intention; Plant-Based Food Products; Elderly

Introduction

Thailand is currently entering a complete aging society and the number of elderly people is continuously increasing. Since the beginning of 2022, Thailand has a population of 60 years old and over that is 20 percent of the total population, or approximately 14 million people. In 2033, Thailand will become a super aging society, with the proportion of the elderly population aged 60 years and over reaching 28 percent and the population aged 65 years and over reaching 20 percent. The rapid increase in the proportion of the elderly will be followed by health problems and various chronic diseases in the elderly (Department of Older Persons, 2021). From studying various research data, it was found that a very important problem for the elderly is health and nutrition problems in the elderly. Most elderly people eat less food, causing the nutrients they receive from their main meals to be unbalanced with the amount of nutrients their bodies need. Therefore, dietary supplements, vitamins, health foods, or other alternative foods are of increasing interest to the elderly and their families. Many sectors, both government and private, have begun to become aware and prepare for the increasing proportion of the elderly population, including the health product market for the elderly, which has begun to send signals about creating products that specifically meet the needs of this consumer group. As a result, the direction of the dietary supplement market for the elderly tends to grow. Including other products in the elderly nutrition group, there has been a significant growth.

Krungthai Compass Research Center in 2020 stated that the COVID-19 outbreak has increased concerns about meat consumption. 23 percent of consumers in the United States have chosen to consume more plant-based foods. For example, 1 in 4 consumers in the European Union intend to reduce their meat consumption within the next 5 years, especially the elderly. However, although plant-based foods are popular abroad and have an increasing trend, the global plant-based food market value in 2019 was 16 billion US dollars or approximately 498 billion baht and grew by 10 percent per year (Krungthai Compass, 2020). In addition, there is a high investment in this group with the belief that this is an industry of the future because plant-based foods are considered a win-win situation: consumers will reduce the risk of diseases that come with fast food and red meat, and it is also good for the world because the production process of plant-based foods harms the environment less than the animal farming industry.

Although plant-based foods have become increasingly popular overseas with the global plant-based food market valued at 16 billion USD (approximately 498 billion THB) in 2019 and expanding by around 10 percent annually the trend in Thailand is still emerging. Thai elderly

consumers, especially those in urban areas such as Bangkok, are beginning to face similar health concerns related to chronic diseases and nutrition balance. However, their familiarity and accessibility to plant-based protein products remain limited. Therefore, understanding the motivations, perceptions, and purchasing behaviors of the elderly in Bangkok is crucial for aligning global food innovation trends with the specific health, cultural, and lifestyle context of Thai consumers.

Growing awareness of health and environmental issues has led many consumers especially younger generations and health conscious seniors to adopt plant-based foods as both a dietary choice and a lifestyle symbol of responsibility toward health, society, and the environment. For the elderly, however, purchase decisions remain complex: they depend not only on perceived health benefits but also on personal factors (income, education, physical condition, prior experience) and marketing mix elements (product features, price, distribution, and promotion). Psychological aspects such as attitudes, motivation, brand trust, and the need for safety and proven health results also strongly influence behavior.

Given Thailand's rapidly expanding elderly population and the limited variety and suitability of existing products, plant-based foods for seniors represent a promising Blue Ocean market. Recognizing this potential, the researcher proposes a study on factors affecting purchase intention and consumption trends of plant-based foods for the elderly in Bangkok. The findings aim to guide entrepreneurs, product developers, and policymakers in creating effective products and strategies to enhance senior health, nutrition, and quality of life in a sustainably aging society.

Research Objectives

1. To study personal factors, marketing factors, psychological factors and purchase intention of plant-based food products for the elderly in Bangkok
2. To compare purchase intention of plant-based food products for the elderly in Bangkok classified by personal factors
3. To study factors affecting purchase intention and consumption trends of plant-based food products for the elderly and product development guidelines: A case study of Bangkok
4. To present guidelines for product development and strategy for plant-based food products

Literature Review

Theory Concepts on Plant-Based Food Products

Chinthiraphap (2022) stated that there are 4 popular plant-based food types as follows

1. Plant-based meat: Innovation that imitates the texture of muscle and the juiciness of animal fat, including nutritional value, which is made from approximately 95 % plants and 5 % non-plant ingredients. It is produced in various product forms such as plant-based beef, plant-based pork, sausages, and plant-based seafood.

2. Plant-based milk and dairy products: Milk and dairy products made from various beans or grains, such as coconut milk, soy milk, almond milk, corn milk, plant-based yogurt, plant-based cheese, and plant-based ice cream.

3. Plant-based ready-to-eat meals: Plant-based ready-to-eat meals, both in the form of chilled food, frozen food, and food that can be stored at room temperature without refrigeration.

4. Plant-based eggs: Plant-based eggs are mainly made from mung beans that have been processed, including adding color and flavor to make them look like eggs. Meet the needs of health-conscious consumers and consumers who are allergic to egg products.

While these product categories are widely recognized globally, their adoption and consumption behaviors among elderly consumers depend on multiple psychological and socio-economic factors. Prior studies on elderly food consumption (Chalermmsri et al., 2020) indicate that health motivation, perceived safety, digestibility, and familiarity of taste and texture play a crucial role in shaping their food choices. In this context, understanding elderly consumers' perception of plant-based foods is essential not only in terms of product innovation but also in addressing their nutritional needs, sensory preferences, and trust in new food technologies.

Marketing mix theory concept

Daengpathiu (2018) stated that the service marketing mix refers to a group of marketing tools that are used together and used in harmony to achieve marketing goals and add value to products or services. It consists of 7 main factors (7 Ps): Product, Price, Distribution Channels, Promotion, People, Physical Evidence, and Process. In addition, Mueanpho (2017) said that the service marketing mix (7 Ps) refers to marketing factors to meet the needs and satisfaction of target customers or to stimulate target customers to want their products and services, which consist of: Product, Price, Place or distribution channels, Promotion, People, Physical Evidence and Process.

Concepts and Theories of Consumer Behavior

Consumer behavior study is the study of behavior, decision-making and actions of consumers regarding the purchase and use of products from available resources, including money, time and energy, to consume various products and services, including what to buy, why to buy, when to buy, how, where and how often (Schiffman & Kanuk, 1994). Most of the decisions to buy products and services are to obtain maximum satisfaction from limited resources (Rattanakay, 2011). Initially, the analysis of consumer behavior can collect data and analyze from 7 questions (6Ws 1H) to find 7 answers (7Os) about consumer behavior (Piyarangsri, 2011).

Factors affecting consumer behavior

Every person has needs, including the need for the four necessities to survive and the need for various conveniences to make them happy and comfortable. However, not everyone can consume all of their needs. Some people cannot even find the four necessities to satisfy their needs. At the same time, some people can find many products and services to satisfy their needs according to their general desires. There are four main factors that determine needs and affect consumer behavior: 1. Cultural Factors 2. Social Factors 3. Personal Factors 4. Psychological Factors

The concept of purchase intention

Generally, every time a consumer decides to buy a product or not, they have a fairly similar thought process both before and after making a purchase decision. These processes are called the consumer buying decision process (Five-Stage Model of the Customer Buying Process) (Orji & Goodhope, 2013) consists of 5 steps: 1. Need Recognition 2. Information Search 3. Evaluation of alternative 4. Purchase Decision 5. Post Purchase Behavior (Thippala, 2012)

Conceptual Framework

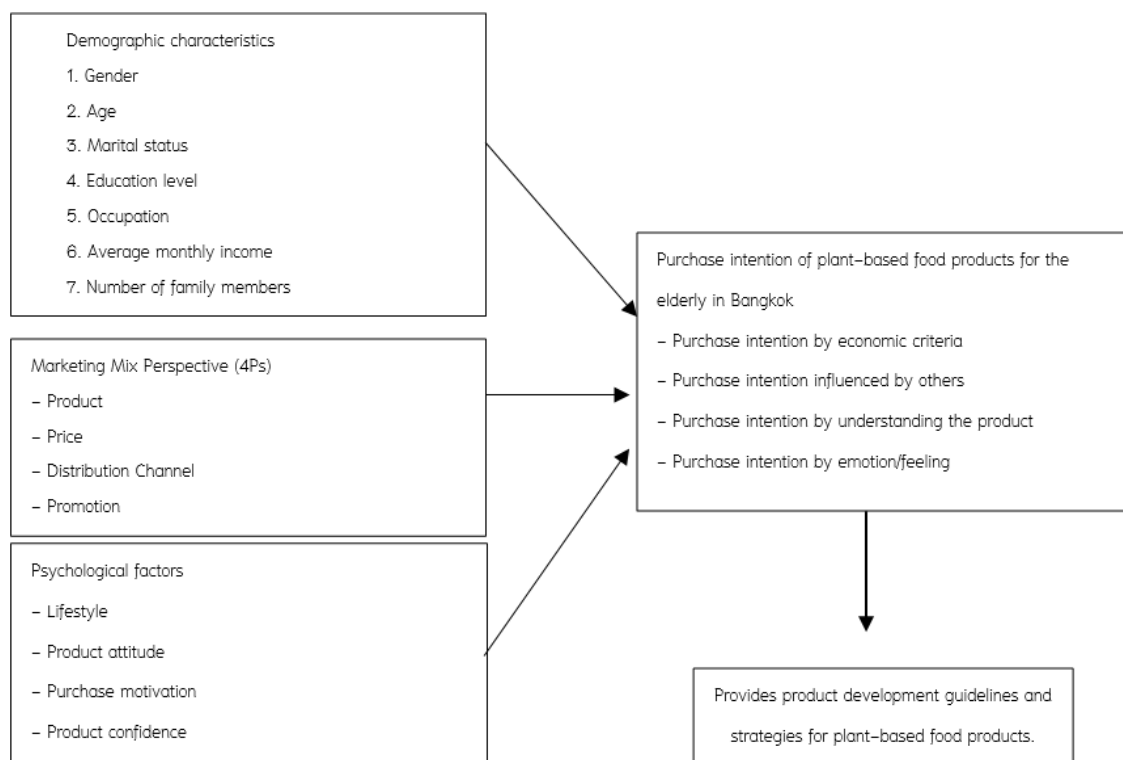


Figure 1 Conceptual Framework

Research Methodology

The population in this study consisted of individuals aged 60 years and over residing in Bangkok, totaling 1,063,817 people (Department of Older Persons, Ministry of Social Development and Human Security, 2019). The sample group comprised 400 elderly participants aged 60 years and over, selected using the quota sampling method. Although the sample size was determined with reference to the Cochran (1953) formula as a guideline for estimating an appropriate number of participants, the actual sampling technique employed was quota sampling, which is a non-probability sampling method. Therefore, the results of this study cannot be generalized to the entire elderly population with statistical confidence. The quota sampling approach was chosen due to practical considerations in accessing elderly respondents across different districts of Bangkok and ensuring representation across gender and age subgroups.

The research instruments included a questionnaire divided into 4 parts: Part 1 Questionnaire on Personal Factors of the Elderly; Part 2 Questionnaire to Measure Marketing Mix Factors, Divided into 4 Areas: 1) Product, including the product itself, brand, And product development 2) Price 3) Distribution channels 4) Advertising and public relations Part 3

Questionnaire to measure psychological factors affecting purchase intention, divided into 3 aspects: 1) Lifestyle 2) Attitude toward products and 3) Motivation to choose Part 4 Questionnaire to measure purchase intention factors, divided into 4 aspects: 1) Economic criteria 2) Influence from others 3) Product understanding and 4) Emotions and feelings. Each construct was operationalized with clear conceptual definitions derived from consumer behavior and marketing literature to avoid conceptual overlap. In particular, the sub-dimension “emotions and feelings” originally included in purchase intention was refined to represent emotional readiness or affective commitment toward purchasing, ensuring it did not duplicate psychological factors such as motivation or attitude. All items were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Responses for each sub-construct were aggregated by computing mean scores to create composite variables for statistical analysis. The reliability of each construct was verified prior to analysis.

Content validity, which was reviewed by three experts, had an index of consistency between questions and objectives (IOC) of 0.875. The reliability of the questionnaire (Reliability) calculated using Cronbach's Alpha coefficient was 0.925. The statistics used in data analysis included frequency, percentage, mean, standard deviation, F-test and multiple regression analysis to forecast the influence of marketing mix, psychology and purchase intention of plant-based food products for the elderly in Bangkok.

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Research Results

The results of the analysis of the research questionnaire data can be summarized into 3 parts: (1) Summary of the results of the analysis of personal factors (2) Summary of the results of the analysis of the marketing mix level, psychological factors, and purchase intention of plant-based food products in Bangkok and (3) Summary of the results of hypothesis testing.

Results of personal factor analysis

From the study of the sample group of elderly people who purchased plant-based food products, the majority were female, 178 people (43.4 percent), aged 65–69 years, 168 people (41.0 percent), had a bachelor's degree, 145 people (35.4 percent), were married, 173 people (42.2 percent), had more than 4 family members living together, 147 people (35.9 percent), and had an average monthly income of 20,000–40,000 baht, 141 people (34.4 percent).

Results of the analysis of marketing mix levels, psychological factors and purchase intention of plant-based food products in Bangkok

1. Marketing mix factors are at a high level overall, with a mean of 3.74 and a standard deviation of 1.019. When considering each aspect in order from most to least, it can be said that the aspect with the highest mean is the product aspect at a high level, followed by the price aspect, followed by the distribution channel aspect, and then the advertising and public relations aspect, respectively. When considering each aspect item by item, it can be shown as follows:

1.1 Product aspect is at a high level ($\bar{x}=3.85$, S.D.=.943), the highest in terms of

1.1.1. Product development is at a high level ($\bar{x}=3.88$, S.D.=1.069), the product has been developed to have a delicious taste, followed by the product has been developed to meet the need for health enhancement, the product has been developed to be easy to eat, the product has been developed to replace the use of meat, respectively.

1.1.2. Brand aspect is at a high level ($\bar{x}=3.85$, S.D.=1.000) in terms of the product having a famous and reliable brand, the product has a well-known brand, the product has a brand indicating health care, respectively.

1.1.3. Product aspect is at a high level ($\bar{x}=3.83$, S.D.=.958) in terms of the product having complete nutritional information on the packaging, the product has clear benefits, such as for food supplements, health enhancement, the product has a quality certification, the product has a delicious taste, the product has a convenient form for eating, the product has beautiful packaging, respectively.

1.2. Price aspect is at a high level ($\bar{x}=3.91$, S.D.=1.083), the highest in terms of the product price being appropriate for the buyer's income, the product price being appropriate when compared to the nutritional value obtained, the product price being appropriate for the raw materials used in production, respectively.

1.3. Distribution channel aspect at a high level ($\bar{x}=3.68$, S.D.=1.109), the most in the item that the product can be purchased at department stores and convenience stores, followed by the product being sold in health product stores, the second most in the item that the product is sold in online channels such as Line@ Facebook, and the second most in the item that the product is sold in TV shopping programs, respectively.

1.4. Advertising and public relations at a high level ($\bar{x}=3.61$, S.D.=1.137), the most in the item that there are public relations channels through online media such as Line@ Facebook, followed by advertising through various media such as radio, television, the second most in the

item that there is detailed information about the product on the website, the second most in the item that there is product information from salespeople, and the second most in the item that there are trial products for customers to try before deciding to buy, respectively.

2. Psychological factors: The overall score was at a high level, with a mean of 3.55 and a standard deviation of 1.092. When considering each aspect in order from most to least, it can be said that the aspect with the highest average score was the motivation for choosing, followed by the lifestyle aspect, and then the lifestyle aspect, respectively. When considering each aspect item by item, it can be shown as follows:

2.1. Lifestyle aspect: At a high level ($\bar{x}=3.56$, S.D.=1.091), most of the items were You are interested in and seek information and knowledge about the nutritional value obtained from consuming various types of food, followed by You take vitamin supplements every day, followed by You choose to eat nutritious food, followed by You exercise every day, and followed by You eat less main meals, respectively.

2.2. Motivation aspect: At a high level ($\bar{x}=3.56$, S.D.=1.188), most of the items were You are interested in trying products with nutritional value suitable for your body, followed by You are interested in trying products recommended by famous people, followed by You are interested in trying products recommended by friends or family, and followed by You are interested in trying products with prices suitable for your income, respectively.

2.3. Attitude towards products: At a high level ($\bar{x}=3.53$, S.D.=1.124). Most of all, you think that eating healthy food will make you healthy and reduce the risk of illness. Next is that you think that eating protein from plants will be better for your body than eating protein from meat. Next is that you are interested in new products and products with the right nutritional value for your body, respectively.

3. The factor of purchase intention is at a high level, with an average value of 3.57 and a standard deviation of 1.088. When considering each aspect in order from most to least, it can be said that the aspect with the highest average value is economic criteria, followed by being influenced by others, followed by emotions/feelings, and finally understanding the product, respectively. When considering each aspect in each item, it can be shown as follows:

3.1. Economic criteria are at a high level ($\bar{x}=3.71$, S.D.=1.130), highest in the item You consider the income received compared to the value that must be spent to buy alternative food products such as plant-based protein, second is You think that the current economic situation affects your intention to buy alternative food products such as plant-based protein, second is You

compare the price of the product with the benefits that will be received from alternative food products such as plant-based protein, respectively.

3.2. Influenced by others is at a high level ($\bar{x}=3.57$, S.D.=1.138), highest in the item You intend to buy alternative plant-based protein products through recommendations from family members, followed by those who have consumed the products, followed by those who have intended to buy alternative plant-based protein products through recommendations from salespeople, followed by those who have intended to buy alternative plant-based protein products through recommendations from friends/acquaintances, and followed by those who have intended to buy alternative plant-based protein products through recommendations from experts such as doctors, pharmacists, and nutritionists, respectively.

3.3. In terms of emotions/feelings, it is at a high level ($\bar{x}=3.52$, S.D.=1.111), with the highest in the following items: You intend to buy alternative plant-based protein products because of their beautiful packaging, followed by those who intend to buy alternative plant-based protein products because of their novelty, followed by those who intend to buy alternative plant-based protein products because of their taste and appeal, followed by those who intend to buy alternative plant-based protein products because of their fear of getting sick due to insufficient nutrition, and followed by those who intend to buy alternative plant-based protein products because of the appearance of the product presenter, respectively.

3.4. In terms of understanding the product, it is at a high level ($\bar{x}=3.47$, S.D.=1.184), with the highest in the following items: You have the intention to buy alternative plant-based protein products because you have studied until you know that the products meet your needs. Next is that you have a good understanding of your own health, which leads to the intention to buy alternative plant-based protein products. Next is that you compare the benefits of alternative plant-based protein products with other health products, which leads to the intention to buy the products. Next is that you have knowledge and understanding about alternative plant-based protein products, which leads to the intention to buy the products, respectively.

Summary of hypothesis testing results

Hypothesis 1: Different personal factors will affect the intention to buy plant-based food products for the elderly in Bangkok differently.

The results of the hypothesis testing found that personal factors in terms of status and average monthly income have different intentions to buy plant-based food products in Bangkok with statistical significance at the .05 level, which accepts the research hypothesis. Meanwhile,

personal factors in terms of gender, age, education level, and number of family members have no different intentions to buy plant-based food products in Bangkok with statistical significance at the .05 level, which rejects the research hypothesis.

Hypothesis 2: Marketing mix factors and psychological factors influence purchase intention of plant-based food products for the elderly in Bangkok.

Table 1 shows the results of the normal multiple regression analysis.

Variable		Unstandardized Coefficient B	Std. Error	Beta	t	Sig.	VIF)	Tolerance
Constant		.005	.076		.059	.953		
Product	(X1)	.171	.047	.148	3.620	< .001**	1.812	0.552
Price	(X2)	.182	.058	.181	3.116	.002*	1.936	0.517
Place	(X3)	.170	.058	.173	2.927	.004*	2.004	0.499
Promotion	(X4)	.023	.049	.025	.483	.629	1.685	0.593
Lifestyle	(X5)	.040	.099	.040	.403	.687	1.297	0.771
Product Attitude	(X6)	.234	.086	.255	2.727	.007*	1.862	0.537
Purchase Motivation	(X7)	.549	.171	.551	3.205	.001*	1.942	0.515
Product Confidence	(X8)	.402	.029	.417	3.711	< .001**	1.665	0.600
R=.944		R ² =.891			F=467.391			
SE _{est} =.363		R ² _{adj} =.889			α=.005			

* Statistically significant at the .05 level.

From Table 1, it was found that the marketing mix variable has an influence on the purchase intention, has an influence on the purchase intention of plant-based food products for the elderly in Bangkok, with statistical significance at the .05 level of 3 components: product (t = 3.620, Sig. = .000), price (t = 3.116, Sig. = .002), and distribution channels (t = 2.927, Sig. = .004). And the psychological factor has an influence on the purchase intention, has an influence on the purchase intention of plant-based food products for the elderly in Bangkok, with statistical significance at the .05 level of 3 components: product attitude (t = 2.727, Sig. = .007), purchase motivation (t = 3.205, Sig. = .001), and product confidence (t = 3.711, Sig. = .000).

From the above analysis results, prediction equations can be created in the form of raw scores and standard scores as follows:

Prediction equations in raw score form

$$Y=a +b(X1) +b(X2) +b(X3) +b(X4) +b(X5)$$

Substitute as follows:

$$Y = .005 + .171(X_1) + .182(X_2) + .170(X_3) + .023(X_4) + .040(X_5) + .234(X_6) + .549(X_7) + .402(X_8)$$

Prediction equations in standard score form

$$Z = .148(Z_1) + .181(Z_2) + .173(Z_3) + .025(Z_4) + .040(Z_5) + .255(Z_6) + .551(Z_7) + .417(Z_8)$$

It can be concluded that marketing mix factors and psychological factors influence the purchase intention of plant-based food products for the elderly in Bangkok. The Beta value is ranked from most to least as follows: purchase motivation ($B = .551$), product confidence ($B = .417$), product attitude ($B = .255$), price ($B = .181$), distribution channel ($B = .173$), product ($B = .148$), lifestyle ($B = .040$), and promotion ($B = .025$). From the analysis of the simple linear regression equation with the adjustment of R Square2 (R^2), the value is .891 or 89.10 percent, which supports the hypothesis with a statistical significance of .05.

The regression model demonstrated a very large effect size (Cohen's $f^2 = 8.17$), indicating that the independent variables collectively explained a substantial proportion of the variance in purchase intention ($R^2 = 0.891$). This suggests that the model possesses strong explanatory power and practical significance.

Guidelines for product development and strategy for plant-based food products

1. Focus on product development by considering the motivation of the elderly, which is the most influential factor. Products should meet the nutritional needs of this group of consumers, such as emphasizing nutrients that promote health, such as plant-based protein, fiber, or easily digestible foods. Marketing strategies can also be used by having celebrities or close friends recommend products to stimulate interest and a desire to try them.

2. Building confidence in products, which is the second most influential factor, is that the elderly place great importance on product safety, cleanliness, and quality. Therefore, it is important to focus on providing clear nutritional information, quality certification from reliable agencies, and designing clean packaging that shows concern for health.

3. Promoting positive attitudes toward consuming plant-based foods by providing comparative information on the value of plant-based and animal-based proteins, as well as organizing activities to provide knowledge about the benefits of plant-based foods to build confidence and inspire consumers to change their behavior for the better.

4. Pricing products appropriately for the purchasing power of the elderly, who may have limited income. Prices should reflect value for money compared to benefits and ingredients, and include a variety of options, such as small packages or promotions that encourage trial use.

5. Expanding distribution channels to provide easy access, especially for the elderly in urban areas who tend to purchase products at convenience stores, department stores, or health stores, as well as increasing convenience through online channels and home delivery services. This is another approach that responds to the behavior of the target group.

6. Marketing promotion will be the factor with the least influence in the model, but it plays an important role in creating brand awareness and encouraging trial purchases. Appropriate strategies, such as using online media appropriately, providing clear information through salespeople, or distributing product samples, will help consumers become familiar and confident in the long term.

Discussions

This research is a study of factors affecting the purchase intention and tendency of plant-based food products consumption for the elderly and product development guidelines: a case study of Bangkok. The results can be discussed as follows:

1. The findings indicate that marital status and average monthly income were significantly associated with the intention to purchase plant-based food products among the elderly in Bangkok ($p < .05$). In contrast, gender, age, education level, and family size showed no significant associations ($p > .05$). These results suggest that elderly individuals who are married may be more health-conscious, considering both personal and family well-being, while those with higher incomes possess greater purchasing power and perceive plant-based foods as beneficial for digestion and general health. These findings are partly consistent with previous research (Setthapanich & Buranawittayaporn, 2021), which also reported significant relationships between income and plant-based food purchasing behavior. However, unlike some earlier studies that observed a modest gender or age influence, this study found no evidence of demographic disparities beyond income and marital status. This suggests that the growing awareness of plant-based nutrition may now extend across diverse demographic groups among Bangkok's elderly population.

2. The study also revealed that the marketing mix variables were statistically related to the elderly's purchase intention for plant-based food products ($F = 8.972$, $\text{Sig.} = .000$, $p < .05$). The most salient factors included taste satisfaction, perceived health benefits, convenience of consumption, brand recognition, complete nutritional labeling, reasonable pricing, and availability in retail stores and supermarkets. These results support but also expand upon prior studies. For instance, Setthapanich and Buranawittayaporn (2021) emphasized product development, distribution, and promotion as key influences. However, the present findings diverge from Arunsangsur (2015), who observed that nutritional value was the dominant driver while other marketing factors such as labeling and promotion had only marginal effects. This variation may reflect changes in consumer familiarity with plant-based options and the market's evolution toward broader accessibility and product diversification.

3. The findings show that various psychological factors were significantly associated with the intention of Bangkok's elderly to purchase plant-based food products ($F = 29.090$, $\text{Sig.} = .000$, $p < .05$). Changes in lifestyle, growing health awareness, and motivation to seek age-appropriate and easily digestible foods along with advice from trusted contacts or health professionals were related to greater purchase intention. Additionally, product affordability relative to income played a supportive role in decision-making. These findings are largely consistent with Setthapanich and Buranawittayaporn (2021), who identified lifestyle, product attitude, and motivation as key psychological dimensions influencing purchase intention for plant-based proteins among elderly consumers. In contrast, Khamkaew (2014) emphasized that both health value and attitudes toward taste were direct determinants of healthy food consumption intentions. The differences across these studies may be explained by contextual variation for instance, the growing availability and normalization of plant-based foods in recent years, which may have shifted consumers' motivations from purely health-driven to more socially and environmentally integrated considerations.

4. The regression analysis indicated that marketing mix and psychological factors were significantly related to elderly consumers' purchase intention for plant-based food products in Bangkok. The standardized coefficients ranked the strength of associations from highest to lowest as follows: purchase motivation ($\beta = .551$), product confidence ($\beta = .417$), product attitude ($\beta = .255$), price ($\beta = .181$), distribution channel ($\beta = .173$), product ($\beta = .148$), lifestyle ($\beta = .040$), and promotion ($\beta = .025$). The model explained a substantial proportion of variance in purchase intention ($\text{Adjusted } R^2 = .891$), confirming a strong associative relationship between the examined

factors and the outcome variable. The findings demonstrate that purchase motivation and confidence in product quality are the strongest correlates of purchase intention, highlighting the importance of intrinsic motivation and trust in the product. Meanwhile, reasonable pricing, accessible distribution, and nutritious, appealing product attributes serve as supporting influences. These results converge with those of Setthapanich and Buranawittayaporn (2021), who emphasized product development, distribution, and advertising as significant predictors. Similarly, Nangam and Phothongsaeng-arun (2019) reported that attitudes, motivation, and product confidence directly shape repurchase intentions for clean food, with satisfaction and social influence exerting indirect effects. The present study supports these relationships while emphasizing the combined role of psychological engagement and marketing factors in strengthening purchase intention toward plant-based foods. Nevertheless, given the use of non-probability sampling and reliance on self-reported measures, causal inferences cannot be made. Future research using longitudinal or experimental designs is recommended to confirm these associations and to examine how motivation and product confidence evolve as the Thai plant-based food market continues to mature.

This is also consistent with the foreign research of Anjani and Perdhana (2021) who studied green marketing mix effects on consumers' purchase decision: a literature study. The results of the study found that marketing of green products or products that are environmentally friendly and friendly to consumption, including plant-based products, price, place, and distribution channels, significantly affect consumers' purchasing decisions for plant-based products and environmentally friendly products at a statistical level of .05. It is also consistent with the research of Moreira et al. (2021) who studied Social Media Analysis to Understand the Expected Benefits by Plant-Based Meat Alternatives Consumers. The results of the study found that companies use marketing mixes using meat products made from animals through online channels, such as Instagram or Facebook, which affect the decision to purchase plant-based meat products. The influence of the variables can be predicted by 63.0 percent, with the variable that has the most impact on the purchase decision being the product, accounting for 21.0 percent.

New Knowledge from Research

Marketing Mix. Overall at a high level (Mean = 3.74, SD = 1.019). Ranked from highest to lowest: Product, Price, Distribution Channels, and Promotion.

Product. Development should focus on delicious taste, meeting health needs, ease of consumption, and the ability to replace meat. Brands should be reliable, well-known, and provide complete nutritional information on packaging.

Price. Must be appropriate for elderly consumers' income and clearly reflect value in relation to ingredients and nutritional benefits.

Distribution Channels. Products should be easily available at convenience stores, department stores, health stores, and online platforms.

Promotion. Online media and product sampling remain important for brand awareness, though they have the least influence compared to other factors.

Psychological Factors. Overall at a high level (Mean = 3.55, SD = 1.092). Ranked from highest to lowest: Purchase Motivation, Lifestyle, and Attitude toward Products.

Purchase Intention. Overall at a high level (Mean = 3.57, SD = 1.088). Ranked from highest to lowest: Economic Criteria, Influence of Others, Emotions/Feelings, and Product Understanding.

Conclusion

The study found that marketing mix and psychological factors were strongly associated with the purchase intention of plant-based food products among the surveyed elderly in Bangkok. The key influencing factors were purchase motivation, product confidence, and product attitude, explaining 89.10% of the variance ($R^2 = .891$). These findings suggest that developing nutritious, trustworthy, and affordable products can enhance acceptance among elderly consumers. The results provide insights specific to this sample and should not be overgeneralized; future studies using probability or longitudinal designs are recommended.

Based on these findings, several strategic implications are proposed: developing products aligned with the nutritional needs and motivations of the elderly, enhancing product confidence through quality assurance and informative labeling, fostering positive attitudes through health education, setting prices suitable to the purchasing power of elderly consumers, expanding convenient access through multiple distribution channels, and strengthening brand awareness through targeted health-oriented promotions. These results provide valuable insights specific to

the surveyed elderly group in Bangkok, rather than all elderly consumers in the city. Therefore, the findings should be interpreted with caution and not overgeneralized. Future studies using probability sampling or longitudinal methods are recommended to validate these associations and expand understanding of plant-based food consumption among the broader elderly population in Thailand.

Suggestions

1. From the study of the marketing mix indicators, when considering the components of each variable, it was found that:

1.1 The study found that although packaging attractiveness was rated high, it ranked lowest among product attributes. This suggests that while seniors appreciate appealing packaging, it is not the primary determinant of purchase intention. Therefore, based on empirical evidence, marketers and developers should focus on improving packaging functionality and sustainability—such as adopting eco-friendly or reusable materials—to reflect the growing environmental awareness identified in the responses.

1.2 Although respondents perceived prices as appropriate for product quality, this dimension also ranked low. The findings indicate a gap in price transparency rather than dissatisfaction with the actual cost. Providing clear labeling of raw materials, production quality, and nutritional value could enhance seniors' understanding of value-for-money and justify price differences, thereby supporting purchase confidence.

1.3 Sales via TV shopping were rated positively but ranked low in overall influence. This indicates that exposure and accessibility remain limited. The results imply the need to increase visibility across media channels familiar to the elderly—particularly health-related TV programs or community-based communication platforms—to improve awareness and accessibility.

1.4 Free trials were rated as valuable but underutilized, indicating a gap between perceived effectiveness and actual practice. Evidence suggests that in-store tastings or seasonal campaigns led by knowledgeable staff can enhance experiential trust and brand recognition, which were statistically associated with purchase motivation among respondents.

2. From the study results of psychological indicators, when considering the components of each variable, it was found that

2.1. Findings revealed that many elderly participants eat fewer main meals, raising potential nutritional gaps. This implies a need for plant-based food innovations that offer complete

nutrition in smaller portions, aligning with physiological and behavioral patterns observed in the sample.

2.2. Motivation was significantly associated with purchase intention ($\beta = .551$). Empirical data indicate that price suitability relative to income is central to motivation. Thus, evidence supports offering introductory promotions or sampling campaigns to reduce perceived financial risk and encourage initial product trials.

2.3. Seniors expressed interest in nutritionally balanced new products but were less influenced by appearance alone. The data suggest that functional diversity such as products for different cuisines or easy to prepare options can strengthen positive attitudes and broaden product appeal within the elderly demographic.

3. From the study of purchasing intention indicator data, when considering the components of each variable, it was found that:

3.1. Respondents demonstrated a tendency to compare product benefits with prices, highlighting an evidence based need to communicate measurable health and nutritional outcomes. Marketers should frame messages around value per unit of nutrition rather than cost alone, reinforcing the health economic tradeoff observed in the findings.

3.2. Empirical evidence shows that expert recommendations from doctors, pharmacists, or nutritionists strongly correlate with purchase intention. This underscores the importance of credibility and informational trust, suggesting that expert endorsement in campaigns can reinforce confidence among elderly consumers.

3.3 While presenter appeal influenced emotions and trust, data imply that trustworthiness outweighs attractiveness for elderly consumers. Therefore, evidence supports featuring qualified professionals or credible health advocates as communicators to build emotional connection and authenticity in brand messaging.

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