

Health-Conscious Pet Owner and Premium Pet Food Purchasing in Thailand

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ความสัมพันธ์ระหว่างเจ้าของสัตว์เลี้ยงที่มีความตระหนักรู้ด้านสุขภาพและการซื้ออาหารสัตว์เลี้ยง
ชนิดเม็ดเกรดพรีเมียมในประเทศไทย



สารนิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรมหาบัณฑิต
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พจนาน กงทน : ความสัมพันธ์ระหว่างเจ้าของสัตว์เลี้ยงที่มีความตระหนักรู้ด้านสุขภาพและการซื้ออาหารสัตว์เลี้ยงชนิดพรีเมียมเกรดพรีเมียมในประเทศไทย. (Health-Conscious Pet Owner and Premium Pet Food Purchasing in Thailand)
 อ.ที่ปรึกษาหลัก : รศ. ดร.योग ฐาน

ปัจจุบันมูลค่าตลาดอาหารสัตว์เลี้ยงเกรดพรีเมียมในประเทศไทยเติบโตอย่างต่อเนื่อง และในขณะเดียวกันกระแสสุขภาพกำลังเป็นที่นิยมในประเทศไทยและได้รับการตอบรับจากผู้บริโภคเป็นอย่างดีจนทำให้ตลาดอาหารเพื่อสุขภาพมีมูลค่าเพิ่มขึ้นอย่างต่อเนื่อง ทั้งสองปรากฏการณ์นี้มีการเคลื่อนไหวไปในทิศทางเดียวกันคือเติบโตในทิศทางบวก ดังนั้นการศึกษานี้จึงมีวัตถุประสงค์เพื่อที่จะศึกษาว่าความตระหนักรู้ด้านสุขภาพของเจ้าของสัตว์เลี้ยงมีผลต่อการเลือกซื้ออาหารสัตว์เลี้ยงชนิดเกรดพรีเมียมหรือไม่ โดยใช้การวิเคราะห์การถดถอยโลจิสติกจากข้อมูลแบบสอบถามที่เก็บรวบรวมจากเจ้าของสัตว์เลี้ยงที่เลี้ยงสุนัข หรือ แมว หรือเลี้ยงทั้งสองชนิด ผลการวิเคราะห์ชี้ให้เห็นว่าเจ้าของสัตว์เลี้ยงที่มีความตระหนักรู้หรือให้ความสำคัญด้านสุขภาพจะเลือกซื้ออาหารเกรดพรีเมียมให้กับสัตว์เลี้ยงของพวกเขา รวมถึงเจ้าของที่มองว่าสัตว์เลี้ยงเป็นหนึ่งในสมาชิกของครอบครัวจะเลือกซื้ออาหารสัตว์เลี้ยงเกรดพรีเมียมเช่นกัน นอกจากนี้เจ้าของสัตว์เลี้ยงที่มีรายได้สูงและไม่มีลูกก็จะเลือกซื้ออาหารเกรดพรีเมียมให้กับสัตว์เลี้ยง การศึกษานี้เป็นการศึกษาความสัมพันธ์ระหว่างความตระหนักรู้ด้านสุขภาพของมนุษย์ต่อการซื้ออาหารสุขภาพให้สัตว์เลี้ยง ดังนั้นผลการศึกษานี้จะช่วยให้ผู้ผลิตอาหารสัตว์เลี้ยงนำไปวิเคราะห์และกำหนดกลยุทธ์ทางการตลาดได้อย่างมีประสิทธิภาพสอดคล้องกับกระแสนิยมด้านสุขภาพในประเทศไทย

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In Thailand, the market value of premium pet food has been significantly increasing overtime. Simultaneously, consumers also increasingly demand healthy food to satisfy healthy lifestyle which is trendy nowadays. This phenomenon seems to grow with the same direction so the purpose of this study is to investigate the influence of health-consciousness lifestyle on the food choice for pets by using the logistic regression. The questionnaire was distributed to pets' owners who keep dogs or cats or keep both. The result shows that health-conscious pet owners are more likely to purchase premium pet food. In addition, the owners who have pet humanization attitude are the premium pet food purchaser. It also shows that health-conscious owners with high income and have no children are more likely to purchase premium pet food. This paper represents one of the very first attempts to study the owner's healthy perspective and pet food purchasing. Therefore, the findings have the implications for pet food company toward their marketing strategies in order to generate advantages and catch up with the trend more effectively.

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SECTION 1: INTRODUCTION

1.1 Overview

Pet keeping is considered as a human companionship and the trend of adopting pet in households is increasing widely resulting the continuously rise of pet food demand. Its global market valued approximately 114.9 billion USD in 2021, increasing from 102.6 billion USD in 2020, and expected to reach 165.4 billion USD in 2026 (Euromonitor International, 2022). There are several reasons that support the upward trend. For example, it is reported that pet can help reducing stress or loneliness feeling as well as generate happiness to owners leading to a perception change; pet is not just animals but they are family members, generating a close bond between pets and owner known as the pet humanization (Marketeer, 2021).

In Thailand, Pet food market is making the same trend. One of the main factors to generate the strong growth, even in the COVID-19 pandemic, is the rising of pet population and pet owners which may influenced by some demographic change such as the gradual increase of the number of households without children, single and elderly people. These groups of population could seek pets for companion instead of children. Moreover, new generation who growing into adulthood tend to have pet-loving lifestyle as we can see in the social media of pet picture posting and pet lover fan pages (Sutthibongkot, 2019). Therefore, it can be seen that the demand for pet food become larger continuously, making the market value significantly increase. In 2021 the market value was about 41.95 billion THB, climbing up from previous year at 38.85 billion THB by 8% and also expected to go higher in the future. Among pet population, it is clear that dogs is more popular than others so dog food is account for a highest proportion value in the market followed by cats food and other respectively and dry food is still the main diet being selected by owners feeding for their pet. As the result, dry pet food continues to account for higher sales than wet pet food.

Cat and Dog Population in Thailand

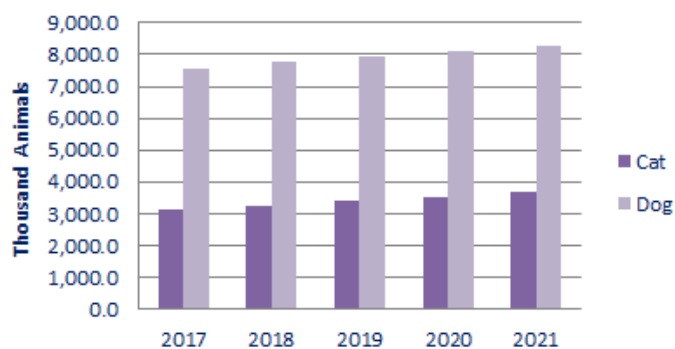


Figure 1.1: The number of cat and dog population, reported by Euromonitor International, 2022.

Dog and Cat Owners in Thailand

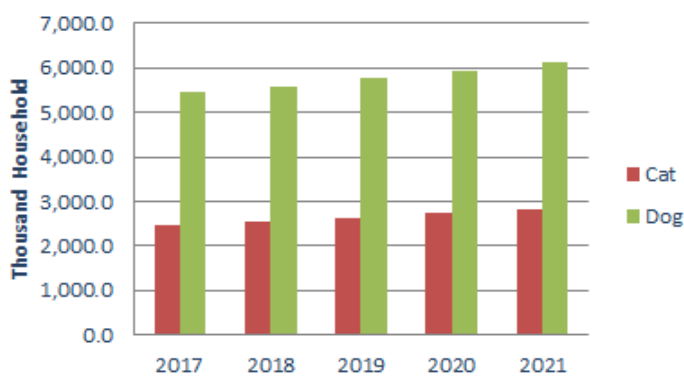


Figure 1.2: The number of cat and dog owners in Thailand, reported by Euromonitor International, 2022.

Thailand Cat and Dog Food Market

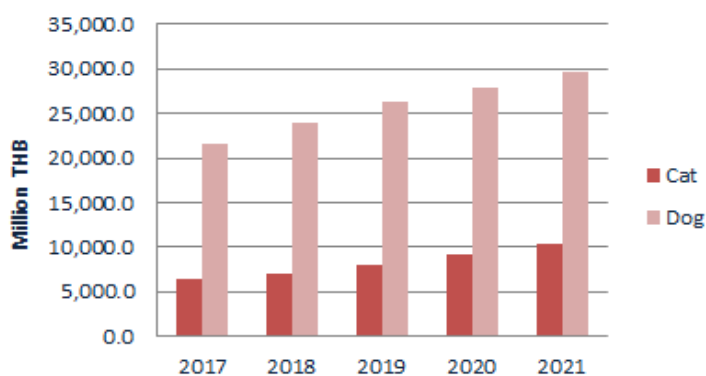


Figure 1.3: The food market value of cat and dog, reported by Euromonitor International, 2022.

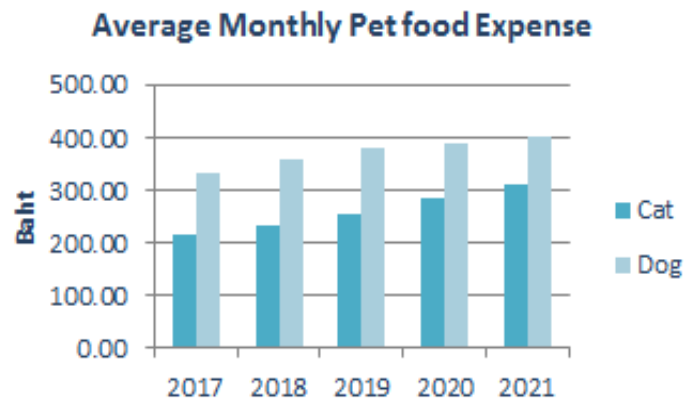


Figure 1.4: Average monthly expense for pet food per household

If we bring the data from Figure 1.2 and Figure 1.3 to calculate the average monthly expense for pet food that household feed their pets, it shows out in Figure 1.4 that Thai households spend around 300 to 400 Baht per month. It may look small amount but it can imply that there are still a lot of household feed their pets with home-made food so they have no huge expense on pet food purchasing.

Within the market, there are many new players enter the market, providing several options to the customers in term of price of product: economy pet food, mid-priced pet food, and premium pet food. This characteristic of the market induces a high competitive environment although each price range target different customers. According to the pet humanization, pet owners tend to pay more attention to quality of product than the quantity. Furthermore, the pandemic also turn human's attention to even more emphasize the health awareness so most of the pet food producers try to develop new products into the market, creating more innovative formulas to serve different needs such as food for specific breed, adult, kitten, puppy, long hair and short hair, indoor and outdoor pet, sensitive digestion and etc. This product development aims to attract consumers, especially health-conscious consumers, as owners who also seek for healthy product and high quality ingredients which greatly offer functional benefit for their pets' health and wellness in the long run, leading to a bright growth of premium pet food. In particular, the natural and organic products such as grain-free and holistic are very popular promoting in current market as a choice for healthier life (Euromonitor International, 2022).

Category	Unit: Million THB	
	2021 Sales Value	
	Dog	Cat
Dry food	18,210.00	6,394.70
Economy	4,318.60	280.60
Mid-Priced	10,049.30	3,992.80
Premium	3,842.10	2,121.30
Wet food	4,175.00	2,126.70
Economy	196.60	234.00
Mid-Priced	3,459.20	1,640.90
Premium	519.20	251.80

Table 1.1: The sales value of cat and dog food of Thailand in 2021 (exclude treats and mixers), reported by Euromonitor International, 2022.

In the same time, health-conscious trend is very booming for Thai people, it is reported that the number of Thai people going exercise and playing sport has increased to approximately 12.9 million people and new generation aged between 15 – 40 years old (Gen Y and Gen Z) is the most interested in healthy life (Kasikorn bank, 2020). Not only physical health but also healthy diet are highly popular, the value market of healthy food and drinks in 2020 expanded to at least 100,000 million baht, increasing from value in 2019 at 88,731 million baht (Bangkokbiznews, 2020). According to food and health survey in 2020, about 54% of consumers and 63% of a group of 50 years old and above are more emphasize a health issue than prices and tastes when they shop for food (Thai health promotion foundation, 2021). Therefore, they are likelihood to purchase healthy food because this kind of food is believed to benefits your health in long term; it is safe, helps you strong, reduce risk and prevent you away from diseases. People also tend to consume a variety of food gaining all 5 nutrient food groups, more vegetables, non-chemical food, avoid risky food such as food containing high fat and high salty content and etc. The popular healthy food that we might familiar nowadays is clean food, organic food and plant-based food so that it is noticeable that healthy ingredients is more valued by health-conscious consumers.

The relationship between health consciousness of customers and healthy food choices for pets are pretty mystery. However, what we can see is that consumers' healthy lifestyle and healthy pet food consumption have the same upward trend, showing the implication of consumers' behavior both for human

themselves and for pets. As the result, this study is the first of which aiming to investigate the relationship between health-conscious pet owner and pet food purchasing decisions in the way that pet owners who definitely concern about their health are likely to concern about their pet's health as well by being willing to pay more and feed their pets with premium food. With this study, it will benefit the pet food marketing of many producers in term of understanding the purchasing behavior and the trend so that it can lead to a successful strategy of marketing.

This paper is organized as follow section 2 reviews previous literature on human-pet relation, health consciousness and pet food purchasing. Section 3 discusses data and methodology used in this study. Section 4 presents the study result and followed by the conclusion and discussion in section 5.

1.2 Objective

To find the relationship between pet owners who have health-conscious lifestyle and premium pet food purchasing in order to see the likelihood of purchasing behavior whether the health-conscious owners also concern about their pet's health by willing to pay more with pet food options. The result can have the implication to marketing strategy of the pet food company in Thailand.

1.3 Research Question

Does the health-conscious lifestyle influence the likelihood of owners to purchase premium pet food? In other word, do the health-conscious owners who concern about their health also concern about their pet's health by investing more with premium pet food?

1.4 Hypothesis

H1: Health-conscious pet owners are more likely to purchase premium pet food.

H2: Owners who have high level of pet humanization are more likely to purchase premium pet food.





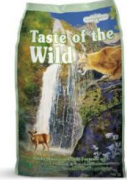





1.5 Definition

Pet

According to Cambridge dictionary, pet is an animal that is kept in the home as a companion and treated kindly. However, in this study we will focus on dogs and cats only.

Premium Pet Food

For the pet food mentioned in this study, we limit the discussion to only dog and cat dry food. According to Kumcu and Woolverton (2015), there are 2 categories of premium dog and cat food: standard premium and super premium which we combine as a single premium category in this study. The premium pet food is a high-quality food to improve the health and wellbeing for pets (Euromonitor International, 2020). In the market, we usually see the premium pet food with several characteristics such as premium, holistic, grain-free, organic, natural or human-grade ingredient, mainly not using by-product ingredient. Most of premium pet foods also promote value-added ingredient such as omega-3 and omega-6 fatty as well as natural colors and flavors. The premium one is also expected to see (1) high-quality protein and low indigestible protein; the sources of these include poultry and rice protein, (2) offer a more specific formulation to target pets with health problems such as obesity, joint inflammation and sensitive digestion, or (3) support lifestyle needs such as indoor, high performance, life stage, and weight management (Euromonitor International, 2012; Kumcu & Woolverton, 2015). With those characteristics, it results a higher price. In addition, premium pet food is considered as the highest price within pet food categories. Despite its price, it is widely popular because pet owners who purchase premium pet food are looking for a high quality ingredients as same as they found in food for themselves. In the current study we will consider those who are the premium pet food consumers if they always select and purchase the premium grade for their pets or purchase premium pet food more than 50 percent than other grade in a year for their pets. In the current market, there are many brands offering the premium grade for both cats and dogs with diverse formula. With the premium ingredient concerning about pet's health, generally premium grade will be more expensive than the standard grade as the example below;

No.	Premium Grade				Standard Grade		
	Packaging	Specification	Price	Price/Kg.	Packaging	Price	Price/Kg.
1		Contain omega 3&6, High protein and help improve bone joint for cat.	1,485 THB (6.6 Kg.)	225 THB		529 THB (7 Kg.)	76 THB
2		Specific formula for indoor lifestyle and age after 7 years.	2,099 THB (10 Kg.)	210 THB		470 THB (7 Kg.)	67 THB
3		Grain free formula. Contain high protein and omega fatty acid.	2,699 THB (6.35 Kg.)	425 THB		399 THB (2.7 Kg.)	148 THB
4		Holistic and Grain free formula, specific for puppy. Contain omega 3&6	3,049 THB (11.4 Kg.)	268 THB		724 THB (10 Kg.)	72 THB
5		Specific formula for age after 7 years. Contain high protein and omega 3&6.	2,590 THB (14.9 Kg.)	174 THB		645 THB (10 Kg.)	65 THB

The well-known brands for premium pet food in the market are Purina one, Royal Canin, Taste of the Wild, Orijen and Hill's and now there are many niche brands enter the markets both Thai brands and foreign brands. All of them promote greatly for healthy ingredient while the standard grade such as Whiskas, Me-o, Pedigree and Smartheart usually use by-product ingredient. It is noticeable that the premium foods seem to be more expensive than the normal one around 160% - 200%.

Health-Conscious People

The health-conscious people are individuals who have a wellness-oriented lifestyle and accept responsibility for their health. In addition, they mainly concern about nutrition, fitness, stress and their environment. Those who are absolute health-conscious will make a commitment to healthy living, particularly food

issue. In this study focuses on health-conscious characteristics mainly in 4 practices according to Meliunas (2020), (1) exercise time is their happy place. Exercise is not just a thing to do for them but it is time to enjoy fresh moment or outdoor air and time to rest their mind from whatever drains them. (2) they practice self-care which means anything that energizes or sustains someone in the long run. For example, staying away from their phone for a while or interacting with their loved ones or doing activities fulfill their peaceful. (3) they carefully shop for ingredients and prefer nutritious meals. They normally do not eat too much junk food since they try to balance their diet, (4) they pay attention to label when go shopping. They avoid artificial ingredients but tend to rely on all natural ingredients and flavors. In other word, reading label is a proper way to educate themselves on what they consume. Apart from these main practices, they also tend to avoid any risky habits which can affect to their health in the long run such as smoking, too much drinking alcohol due to the responsibility for their health. For this study, we will measure the pet owners who have health-conscious with questions based on 5 main categories which are physical fitness, healthy eating, health routine, health motivation, risky habit, in total 15 question as follow;

- | | | |
|--------------------------|---|--|
| Physical Fitness | { | <p><i>I try to exercise regularly.</i></p> <p><i>No matter how busy I am, I always find time each week to do a few hours of exercises.</i></p> <p><i>I am very self-conscious about my health.</i></p> |
| Healthy eating | { | <p><i>I usually read the ingredients on food labels.</i></p> <p><i>I try to avoid foods that are high in fat and cholesterol.</i></p> <p><i>I try to avoid foods with high salt content and additive.</i></p> <p><i>I frequently purchase "health food/natural food.</i></p> |
| Health routine | { | <p><i>I try to monitor the nutritional value of my food.</i></p> <p><i>I try to have enough sleep about 6-8 hrs every day.</i></p> <p><i>I try to drink enough clean water a day.</i></p> |
| Health motivation | { | <p><i>Living life without disease and illness is very important to me.</i></p> <p><i>I am concerned about common health hazard and try to take action to prevent them.</i></p> |

Risky habit { *I don't smoke.*
I try to avoid/reduce eating junk food.
I try to avoid/reduce drinking alcohols.

Pet humanization

Pet humanization in this study will focus on the positive attitude and positive relation between owners and their pets since they create a closed bond. It is a perception to treat pets: cats and dogs as members of family or companion. Moreover, some owners even more treat their pets like children known as pet parents. The owners who humanized their pets tend to talk with their pets and are likely to take them to the veterinarian clinic to make sure that pets are healthy and get compulsory vaccine. Apart from that, the owners who have high pet humanization or pet parent attitude tend to purchase that mirror human themselves. For example, they will carefully select the high quality of food for pets similar to the ones they choose for themselves or products they used for themselves as well as purchasing fashion clothes for pets in some occasion. For this study, we will measure the pet owners who have pet humanization attitude with 14 questions as follows;

1. *I care for my pet and choose foods that provide all the required nutrients for a healthy life.*
2. *I am responsible for the health and well-being of my pet, so my food choices are important.*
3. *I take as much care in choosing my pet's food as I do with other members of my family.*
4. *I consider my pet as a family member.*
5. *I celebrate the birthday and buy present for my pet.*
6. *I purchase clothing for my pets occasionally.*
7. *I exercise with my pets or play together every day.*
8. *I let my pets sleep where they sleep-snuggled up in bed.*
9. *I schedule them to see the vet regularly.*
10. *I keep up with their vaccinations.*
11. *I take my pet to the vet immediately when he or she get injured or sick.*
12. *I have high attachment with my pets. If you lost them, it will make you feel negatively such as worry and sad.*
13. *I believe in animal's right and support the animal protection law.*
14. *I get upset when I hear of cases of animal abuse.*

1.6 Related Theory

This study can be backed by the concept of consumer utility maximization. Consumers buy the things based on the rational decision that give them the highest level of satisfaction or known as utility maximization subject to a budget constraint. The owner purchase pet food on behalf on their pets so the level of pet humanization will determine whether the pet's utility is part of the owner's utility maximization problem. If pet are treated as members of family, purchasing premium pet food will maximize owner's utility. If not, spending on premium pet food will not be affected (Kumcu & Woolverton, 2015, p.218). The pet food product with the highest utility level is always selected by the pet owners. Therefore, if the owners' preference is also based on health-consciousness, there is a possibility that the healthy pet food like premium grade will maximize the owners' utility and will be selected.

$$\text{Max } U(x, y) \text{ subject to: } P_x \cdot x + P_y \cdot y \leq I$$

where “ $\text{max } U(x,y)$ ” represent choosing standard grade and premium grade to maximize utility, and “ $\text{subject to: } P_x \cdot x + P_y \cdot y \leq I$ ” represent the expenditure spend on both must not exceed the consumer's income.

SECTION 2: LITERATURE REVIEW

The previous study related to this topic is not definitely abundant, most of them are often considered the significant determinants that affect the consumers' decision making to buy pet food and the influence of health consciousness on human food purchasing. Those are not likely to focus on the relationship between pet owner lifestyle and purchasing decision. First of all, to understand pets is exactly crucial. Pets become more important to families nowadays because they can offer the companionship and positive benefits to the owner in term of physical, psychological and social well-being. Furthermore, the bond is generated between them (Chen et al., 2012).

2.1 Human-Pet Relationship

The owners purchase pet food on behalf of their beloved pet and to know the most satisfied food, the owner need to understand their pet at some point. Therefore, this is likely to link with human-pet relationship which can influence the purchasing behavior of pet owner. For example, owner who have a strong involvement with their dogs tend to spend more time and money to their dogs (Dotson & Hyatt, 2003). The change of human-pet relation currently leads to the rise of spending on pets. This phenomenon is well known as pet parenting (Volsche, 2018) as part of pet humanization. Human-pet relationship consists of 3 dimensions: attachment refers to the degree of bond exists between the owner and pets, interaction refer to the adjusted behavior of both parties and human substitute refer to the owner's feeling of seeing pet as children, family or friends (Chen et al., 2012)

Considering economics perspective, Schwarz, Troyer and Walker (2007) found that the degree of human substitute affects the pet ownership and expenditures on pets; families with young children presenting the substitution relationship since they spend less on pets and less likely to keep pets while those with older children showing complementary relationship due to more chance to keep pets. Volsche (2021) also examine the bond of pet parenting. The author finds that childfree pet parents invest to fulfill their pet's need in the same way as parents invest for their child. However, they considered raising pets as a trade-off to raising children, not a substitution. In the same way as Owens and Grauerholz (2019), they find that not all of owners identify themselves as pet parent. In particular, the household with younger child they perform the role of parenting

between children and pets differently while the household with older child have similarities in parenting role. These results are understandable because having infant or young children directly impacts the role of parenting. They have more burdens to take care of and their attention shift to the children who are very important to the family (Boston, 2014). It is noticeable that majority of modern households emphasize the pets as family members but looking deep in detail about the parenting role, it might vary due to the family form.

Because of the COVID-19 situation, people are required to keep distance from others, restricted to stay at home and also working from home causing the suspension of the social activities are suspended throughout past two years. Therefore, the importance of nature friends and animal companion are increasing. The article from Cordero Jr. (2021), examine the plant and pet parenting during COVID-19 pandemic in the Philippines. The author summaries that human have a defensive mechanism to handle the unfriendly environment by connecting with nature such as taking care of plants and animals. Moreover, pets generate benefits to human because human-animal bond can heal the vulnerable moment and mental health of the owners. It is consistent with the study from Singapore; individual who own pet has a better mental health than a non-pet ownership and also has a greater physical activity during COVID-19 period (Tan et al., 2021). However, previous studies from western side seem to be inconsistent with the Asian one. In Australia and Canada, it is found that pet owners' life satisfaction, well-being and quality of life score is lower than the non-pet owners during the pandemic due to the strict lockdown which interrupt the regular routines and financial resource (Phillipou et al., 2021; Amiot, Gagné & Bastian, 2022).

According to Russo et al. (2017), pets are family members so most of households choose to feed them with the commercial pet food and pet's health is likely to be an important issue for the owner. Thus, quality of food, physical check up with veterinarian and parasites care are all concerned. Moreover, other service for pets such as pet care, socialized training, pet toys and even pet insurance are also in the rise. Pet parent concerned a lot about food since it affect pet's health in the long run so they tend to pay more attention on it. Key factors of pet food purchasing for modern households are quality and nutrition. Pet parents tend to refuse GMOs and flavor additive product but increasingly seek for products from nature as well as significantly ask for the food origins (Nielsen Company, 2016). Food traceability becomes new and important trend in food industry particularly after COVID-19 situation because consumers concern more about food safety and environment sustainability. They desire to track back to the origin (Krunghai

Compass, 2021). Therefore, this trend will influence not only human food industry but also pet food industry since pets become members of the family and the owners prefer human grade food for their pets.

2.2 Health-Conscious Consumers

People who adopt a wellness lifestyle seem to focus on a prevention as a mean of remain healthy so they try to avoid putting themselves in any danger behaviors and are sensitive to the surrounding health hazard. They also concern about the diet routine and exercise behavior as well as emotion management: stress and pressure (Kraft & Goodell, 1993). The concept is similar when they play a role as consumers. “Health-conscious consumers are aware and concerned about their state of well-being and are motivated to improve and/or maintain their health and quality of life, as well as preventing ill health by engaging in healthy behaviors and being self-conscious regarding health” (Michaelidou & Hassan, 2008, p. 164). Female, older and well educated group are more likely to be aware of health while the younger ages are less likely to concern about health (Divine & Lepisto, 2005; Chen, 2011). It might because the older tend to have a problem with overweight more easily so it motivated them to adopt the health awareness (Divine & Lepisto, 2005).

According to Rana and Paul (2019), health issue is the main factor to consumers when they make a purchasing decision toward organic food. Therefore, Food choice can reflect the health-consciousness perception of consumers. Most of them seem to prefer organic food which is symbol of nature and cleanliness. Zepeda and Li (2007) discover that most organic food shoppers are more younger, more educated and have high income. Akhondan, Carroll and Rabolt (2015) investigate the undergraduate students in San Francisco on organic food consumption and they find that health consciousness and organic food consumption show the positive relationship. The more they have health awareness, the more they consume organic food. In contrast, Michaelidou & Hassan (2008) find that food safety is more important attribute than health consciousness toward organic food purchasing. Price and nutrition are very significant factors as consumers’ food choice. Consumers appear to be sensitive to price. However, they also concern about nutrition information presented in the product. Health conscious consumers greatly value the nutrition information on the product label (Ghvanidze et al., 2017). These previous studies demonstrate that health-conscious people concern a lot about nutrition and safety on food product.

2.3 Pet Food Consumption

In term of pet food purchasing behavior, the study regarding the relationship between health-conscious owner and pet food buying decision does not exist widely. Refer to the human food, health group appear to concern about nutrition presented on product. Therefore, they might behave the same way when choosing the food for their pets in order to keep the pets healthy. Tiangtham and Chaisuwan (2018) study the lifestyle and buying behavior of pet parent group. They find that healthy consumers are likely to concern more carefully about buying food for their pet. It leads to an implication that healthy group tend to have a high health-consciousness so they also concern about their pet's health through the willingness to buy a high quality of food. Tarunram and Srisornkompon (2021) investigate the factors that affect the consumer decision on pet food in Bangkok, Thailand. The author focused on dog dry food and finds that demographics: gender, age and level of education influence significantly the purchasing decision on dry dog food. Furthermore, product characteristics: brand reputation, nutrition, packaging and quantity are more considerable than price and marketing on consumer's decision. This show the similarity to the study in Korea from Kwak and Cha (2021), the author finds that brand reputation, perception of product healthiness as well as price fairness have a positive effect on consumers' attitude toward pet food purchasing. Packaging, price and product healthiness influence the purchasing behavior for offline customers while only price influences online customers.

Nutrition related to pet's health seems to be the main factor for pet owners. This summary can be confirmed by the study in Italy about quality indicators on cat and dog's food judged by pet owners' perception. The author find that Italian purchasers value the nature ingredients the most as the main indicator to judge whether pet food meet the quality requirement while the price is the least important (Vinassa et al., 2020). Kumcu and Woolverton (2015) examine the relationship between premium human food consumption and premium pet food purchasing decision, using probit regression. The author specifies premium pet food as being holistic, natural, organic or human grade ingredients and finds that households who regularly consume premium grade food are likely to purchase premium pet food for their pets, reflecting the consistent perception of food quality both human and pet food. The more percentage they consume premium food, the more they purchase premium pet food. Moreover, surprisingly younger pet owner tend to purchase premium pet food even though the budget constraints

exist. Human grade ingredients are trendy and frequently used in pet food promotion widely in the market nowadays. However, “it is important to keep in mind that our four legged companions have different health issues with human. In other word, the nutritional requirements of human do not translate identically to health requirement of those companions (Clemens, 2014).



SECTION 3: DATA AND METHODOLOGY

3.1 Conceptual Framework

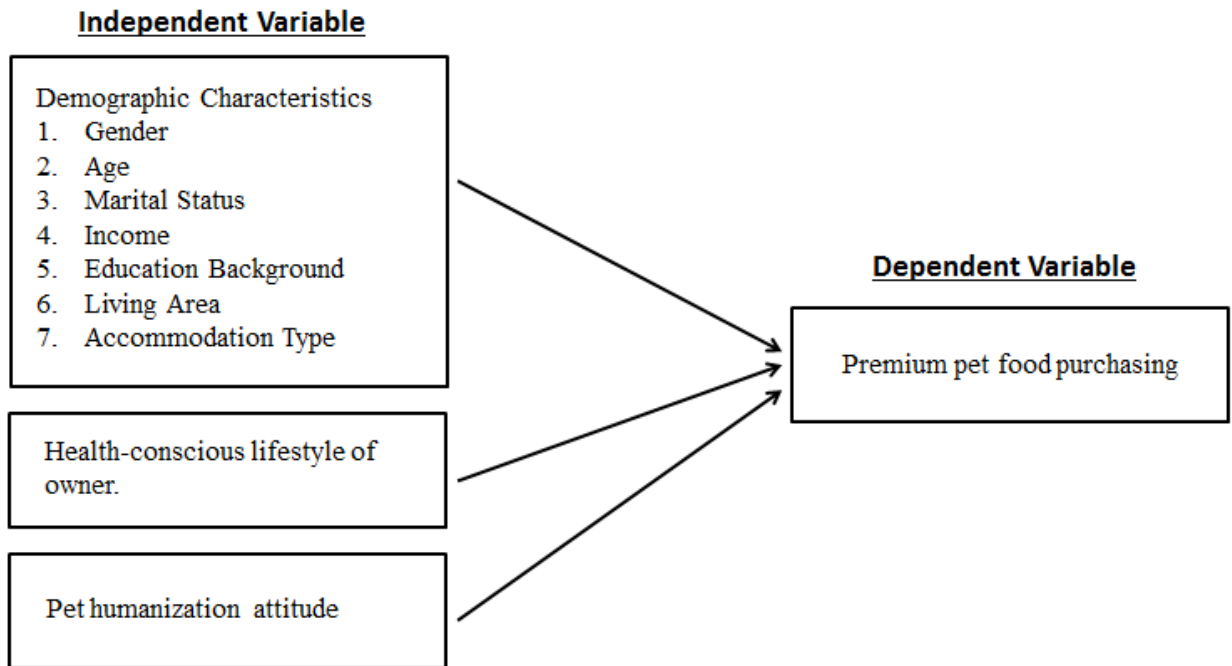


Figure 3.1: Conceptual framework

The conceptual framework demonstrates the influence of demographic characteristics, Health conscious lifestyle and pet humanization attitude, set as independent variable, on premium pet food purchasing decision, fixed as dependent variable.

Health-conscious owners will be our main target of the study to determine whether health awareness of the owners will influence the premium pet food consumption so this factor is very crucial and adopted in the study. Health-conscious owners will be measured by 5 main categories based on the previous study of Hong (2009) which are physical fitness, healthy eating, health routine, health motivation, risky habit.

The pet humanization attitude which was investigate in the research of Kumcu and Woolverton (2015) that owners who have the sense of pet humanization attitudes increasingly affect the probability of purchasing premium pet food. Therefore, this factor will be also adopted in this study. Pet humanization will be measured by 5 main categories based on Nielsen (2016) and Williams

(2017) which are pet healthy diet, relationship, reward, health care and attitude to animal's right.

3.2 Data Description and Summary Statistics

This study use a quantitative method by collecting the data from online questionnaire created via Google form. The target sample is restricted to Thai people who own pets which specified only dogs or cats. The questionnaire is mainly distributed through online communities such as pet lover Facebook pages and twitter, using convenience sample and we have received 216 respondents completing the questionnaire back to us. They are required to answers in total 43 questions which categorized into 4 parts; part 1 is about demographic information, part 2 is about pet and pet food information, part 3 and part 4 are a 5-Point Likert Scales from strongly disagree to strongly agree, asking about health-conscious lifestyle and pet humanization attitude respectively which specified in section 1. The respondents are required to rate the scales relevant to them;

Strongly disagree	(1)
Disagree	(2)
Neutral	(3)
Agree	(4)
Strongly agree	(5)

In order to interpret the data, we will find the Likert scale interval as follow;

$$\begin{aligned}
 \text{Interval} &= (\text{Maximum} - \text{Minimum})/\text{Range} \\
 &= (5 - 1)/5 \\
 &= 0.80
 \end{aligned}$$

Likert-Scale	Interval	Description
5	4.21 - 5.00	Highest level
4	3.41 - 4.20	High level
3	2.61 - 3.40	Neutral level
2	1.81 - 2.60	Low level
1	1.00 - 1.80	Lowest level

The respondents who have mean falling into high and highest level will be considered as health-conscious pet owners while the others neutral to lowest level will be considered as non-health conscious pet owners. From the total respondents, Table 3.1 illustrate that the premium and standard grade purchasing are not much different. However, the majority of our sample can be specified as health-conscious pet owner at 78% whereas the non-health conscious pet owner is at 22%. In term of product grade purchasing, 53% of health-conscious pet owners purchase premium grade pet food while 47% is the standard grade purchaser. On the other hand, the non-health conscious pet owner purchase premium grade pet food only at 25% while another 75% is standard grade purchasers.

Table 3.1: The proportion of pet food grade purchasing

Category	Total		Premium grade		Standard grade	
	No.	%	No.	%	No.	%
Health-conscious owners	168	78	89	53	79	47
Non-Health conscious owners	48	22	12	25	36	75
Total	216	100	101	46.8	115	53.2

Table 3.2 demonstrates the summary statistics of the variables used in the model. From the sample, the proportion of premium and standard pet food purchase are quite similar but the standard pet food purchaser is pretty higher at 53% while premium purchaser is 47%. Surprisingly, the respondents own cats at 49% and own dogs at 36% and other are owning both at 15%, which in contrast to the national statistics and Sutthibongkot (2019), indicating that about a half of households who own pets in Thailand will own dogs rather than cats. Therefore, the sample in this survey may not exactly represent the entire population of pet owner in Thailand so the result in this study will mainly explain our sample. The majority of the owners have been keeping pets more than 5 years and the number of pets they adopted is around 1 to 2 pets which can be dogs or cats or both. In term of the demographic characteristics, the majority of the respondents who own pets are dominated by female at 73% which higher than male who is sharing at 24%. This is align with the previous study from Sutthibongkot (2019) who find that pet owners tend to be female with the similar percentage at 79% and male at only 21%.

Table 3.2: Descriptive Statistics of Variables

Variable	<i>N</i> = 216	
	Mean	SD
Purchasing Statistics:		
Premium pet food purchase	0.4676	0.5001
Standard pet food purchase	0.5324	0.5001
Pet Information:		
Dogs	0.3611	0.4814
Cats	0.4861	0.5010
Both	0.1528	0.3606
Number of Pet		
1	0.3657	0.4828
2	0.2269	0.4198
3	0.1852	0.3894
4	0.0926	0.2905
5	0.0417	0.2003
More than 5	0.0880	0.2839
Years of Keeping Pet		
Under 1 year	0.0972	0.2970
1 - 2 years	0.2870	0.4534
3 - 5 years	0.2222	0.4167
More than 5 years	0.3935	0.4897
Demographics:		
<i>Gender</i>		
Male	0.2361	0.4257
Female	0.7269	0.4466
Others	0.0370	0.1893
<i>Age</i>		
Under 30 years old	0.1759	0.3816
30 - 40 years old	0.4815	0.5008
41 - 50 years old	0.2083	0.4071
51-60 years old	0.1157	0.3207
Older than 60	0.0185	0.1351
<i>Marital Status</i>		
Single	0.4491	0.4986
Single with children	0.1296	0.3367
Married with no children	0.1620	0.3693
Married with children	0.2593	0.4393

Table 3.2: Descriptive Statistics of Variables (cont.)

Variable	<i>N</i> = 216	
	Mean	SD
Demographics: (cont.)		
<i>Monthly Income</i>		
Under 20,000 THB	0.1806	0.3855
20,001 - 30,000 THB	0.2639	0.4418
30,001 - 40,000 THB	0.2222	0.4167
40,001 - 50,000 THB	0.1435	0.3514
50,001 - 60,000 THB	0.0741	0.2625
Higher than 60,000 THB	0.1157	0.3207
<i>Education Background</i>		
Under bachelor's degree	0.1574	0.3650
Bachelor's degree	0.6157	0.4876
Higher than bachelor's degree	0.2269	0.4198
<i>Geographical Region</i>		
Bangkok	0.4769	0.5006
Central	0.1574	0.3650
North	0.0972	0.2970
Northeast	0.0509	0.2204
East	0.1667	0.3735
South	0.0509	0.2204
<i>Accommodation</i>		
Single-family house	0.5232	0.5006
Condominium	0.0880	0.2839
Apartment/Flat	0.0370	0.1893
Townhouse	0.2407	0.4285
Others	0.1111	0.3150

Table 3.3: Summary of purchasing factors and monthly expense for pet food purchase.

Purchasing Factors	<i>N</i> = 216		Monthly Expense	<i>N</i> = 216	
	Mean	SD		Mean	SD
Nutrition/Quality of ingredient	0.5556	0.4981	Less than 1,000 Baht	0.2361	0.4257
Brand reputation	0.1435	0.3514	1,000 - 2,000 Baht	0.5185	0.5008
Price	0.1157	0.3207	2,001 - 3,000 Baht	0.1528	0.3606
Recommendation by the vet	0.0926	0.2905	More than 3,000	0.0926	0.2905
Packaging	0.0556	0.2296			
Others	0.0370	0.1893			

Table 3.4: The descriptive statistics of health consciousness from 216 respondents.

Q:	Health consciousness	Strongly disagree	disagree	Neutral	Agree	Strongly agree	Mean	SD
1	I try to exercise regularly.	4.17%	7.41%	32.87%	42.13%	13.43%	3.5324	0.9591
2	No matter how busy I am, I always find time each week to do a few hours of exercises.	3.70%	8.80%	31.94%	45.83%	9.72%	3.4907	0.9200
3	I am very self-conscious about my health.	0	2.78%	23.61%	50.46%	23.15%	3.5650	0.8271
4	I usually read the ingredients on food labels.	0	2.78%	23.61%	50.46%	23.15%	3.9400	0.7601
5	I try to avoid foods that are high in fat and cholesterol.	1.39%	8.33%	30.09%	46.76%	13.43%	3.6250	0.8697
6	I try to avoid foods with high salt content and additive.	0.93%	9.72%	30.09%	41.67%	17.59%	3.6530	0.9123
7	I frequently purchase "health food/natural food.	4.17%	12.04%	38.89%	33.33%	11.57%	3.3610	0.9784
8	I try to monitor the nutritional value of my food.	4.17%	9.72%	37.04%	39.35%	9.72%	3.4070	0.9404
9	I try to have enough sleep about 6-8 hrs. every day.	0.93%	6.94%	34.72%	41.67%	15.74%	3.6440	0.8615
10	I try to drink enough clean water a day.	0.46%	4.17%	21.76%	50.93%	22.69%	3.9120	0.8050
11	Living life without disease and illness is very important to me.	0	3.70%	24.07%	43.98%	28.24%	3.9680	0.8206
12	I am concerned about common health hazard and try to take action to prevent them.	0	2.78%	25.93%	48.15%	23.15%	3.9170	0.7731
13	I don't smoke.	0.46%	2.31%	18.52%	37.04%	41.67%	4.1710	0.8426
14	I try to avoid/reduce eating junk food.	3.24%	7.41%	35.19%	38.43%	15.74%	3.5600	0.9529
15	I try to avoid/reduce drinking alcohols.	2.31%	3.24%	23.15%	40.74%	30.56%	3.9400	0.9356

Table 3.5: The descriptive statistics of pet humanization attitude from 216 respondents.

Q:	Pet Humanization Attitude	Strongly disagree	disagree	Neutral	Agree	Strongly agree	Mean	SD
1	I care for my pet and choose foods that provide all the required nutrients for a healthy life.	0	0.46%	9.72%	48.15%	41.67%	4.3100	0.6620
2	I am responsible for the health and well-being of my pet, so my food choices are important.	0	0.46%	14.35%	47.69%	37.50%	4.2220	0.6999
3	I take as much care in choosing my pet's food as I do with other members of my family.	0	1.85%	22.69%	40.28%	35.19%	4.0880	0.8050
4	I consider my pet as a family member.	0	0.46%	11.11%	37.04%	51.39%	4.3940	0.7007
5	I celebrate the birthday and buy present for my pet.	8.33%	5.09%	28.70%	34.26%	23.61%	3.5970	1.1490
6	I purchase clothing for my pets occasionally.	9.26%	7.87%	23.61%	39.35%	19.91%	3.5280	1.1690
7	I exercise with my pets or play together every day.	1.39%	2.78%	19.44%	43.98%	32.41%	4.0320	0.8701
8	I let my pets sleep where they sleep-snuggled up in bed.	2.78%	4.63%	18.98%	38.89%	34.72%	3.9810	0.9881
9	I schedule them to see the vet regularly.	1.39%	1.85%	19.91%	43.98%	32.87%	4.0510	0.8530
10	I keep up with their vaccinations.	0	0.93%	13.89%	35.19%	50.00%	4.3430	0.7491
11	I take my pet to the vet immediately when he or she get injured or sick.	0	0.93%	11.57%	44.44%	43.06%	4.2960	0.7056
12	I have high attachment with my pets. If you lost them, it will make you feel negatively such as worry and sad.	0.46%	0	9.72%	38.89%	50.93%	4.3980	0.7014
13	I believe in animal's right and support the animal protection law.	0.93%	0.46%	14.35%	32.87%	51.39%	4.3330	0.8069
14	I get upset when I hear of cases of animal abuse.	0.46%	0.46%	8.80%	42.13%	48.15%	4.3700	0.7034

In addition, the most of the pet owners responded to the survey are aged between 30 to 40 years old at 48% and followed by 41 – 50 years old at 21%. It is understandable because this range of age is the majority of Thai population (BOI, 2021) so there is more probability to find this group of age having pet more than other aged group. Most pet owners earn monthly income between 20,000 Baht to 40,000 Baht as well as holding the bachelor's degree and higher. Hence, it also means that pet owners are more likely to be well educated. The single respondents highly account for 45% which mean that this group tends to find pets as companion. According to Tiangtham (2018) single people are more likely to be pet parent so single group will have pet-human relationship in the positive way. Moreover, surprisingly household with children is also the second most sharing at 26% which mean that they might keep pets as the companion for their children but the level of pet parent might lower than the single group or vary based on their children's age (Owens and Grauerholz, 2019). The majority of pet owners is live in Bangkok at 48% and followed by eastern and central of Thailand respectively. Since Bangkok is very crowded with people, having highest population in Thailand and also have urban lifestyle, middle class and higher education people so it is possible that a big group of pet owners will live here. Moreover, people in other areas also might have other animals as pet such as fish, chicken and etc. Finally, it can be seen that most of dogs and cats owners are living in the single-family house at 52%. This might because this type of residence offer more spaces which suitable for raising pets.

From the survey, it is clear that as in Table 3.3 currently pet owners are concern about nutrition and quality of pet food ingredients the most, followed by the reputation of the brand which means price are not the main factor of purchase. Furthermore, more than half of respondents spend around 1,000 - 2,000 Baht per month purchasing pet food.

Table 3.4 presents the summary statistic of health consciousness in total 15 questions which the respondents are required to answer in order to determine whether they are health conscious person. Overall, the average point of each question is around 3.4 to 4.2 and the highest indicator is about smoking, reflecting that most of our respondents are not likely to smoke. Table 3.5 presents the summary statistic of pet humanization attitude in total 14 questions to determine whether they are have close relationship with their pets or whether they are tend to be pet parents toward their pets. Overall, the average point of each question is quite high, except for the birthday celebration for pets and purchasing present and cloth for pets are slightly lower than others indicators.

3.3 Methodology

In this paper, a logistic regression will be used to analyze which factors influence the probability of purchasing premium pet food, focusing on health consciousness of pet owners. The model is as follow:

$$\text{Logit } P\{\textit{Premium} = 1\} = \beta_0 + \beta_1\textit{Health} + \beta_2\textit{Pethuman} + \beta_2X + \varepsilon$$

Where; Logit P = $\log_e(\text{odds}) = \log_e [P/(1-P)]$

P = Probability to purchase premium pet food.

1- P = Probability not to purchase premium pet food.

Here; *Premium* is an dependent variable that equal to 1 if the owner is premium pet food purchaser and 0 otherwise; *Health* represent the level of pet owners' health consciousness including both cat owners and dogs owners; *Pethuman* represent the level of pet owners' pet humanization attitude; *X* is the vector of demographic and other variables; and ε is a normally distributed error term.

The health consciousness and the pet humanization attitude are examined by the average point from the questionnaire. Apart from demographic characteristics, in order to eliminate the confounding problem, this study also includes other variable which is expected to have impact on premium pet food purchasing as control variables. The list of those variables used in the model is follow:

- Pet type (dogs, cats or both).
- Number of pet (1, 2, 3,4,5, and more than 5)
- Duration of having pet (Less than 1 year, 1-2 years, 3-5 years, and more than 5 years).
- Census region
- Accommodation type.

The model will be run via program “Gretl” and interpret each variable from the sign of coefficients to see the probability of independent variable on premium pet food purchase. The coefficient of *Health* is expected to be positive because we hypothesize that the health-conscious pet owners are likely to purchase premium pet food. The coefficient of *Pethuman* is expected to be positive due to our hypothesis which specifies that the owners with higher pet humanization attitude are likely to purchase premium pet food.



SECTION 4: EMPIRICAL RESULTS

This section presents the result using the logistic regression. In our analysis to examine the hypothesis, we analyze the probability of health consciousness and pet humanization attitude that affect the purchasing decision on premium pet food. Result reported in Table 4.1, firstly confirm that health consciousness affects the premium pet food purchase as we can see that the coefficient appear to be positive as expected and it is significant at the 1% level, indicating that pet owners categorized as health conscious concern are more likely to purchase premium pet food because they also concern their pet's health in long run.

Table 4.1: Estimation Result

Dependent Variable: <i>Premium pet food purchase</i>	Coefficient	(SD)	
Health Consciousness	1.5433	(0.3947)	***
Pet Humanization Attitude	1.4446	(0.3710)	***
Owning Cat	0.7603	(0.3685)	**
Owning both dog and cat	-0.3120	(0.4796)	
Female	-0.1308	(0.4065)	
Other	-0.9005	(0.8144)	
Bangkok	2.0297	(1.0284)	*
Eastern Thailand	1.8563	(1.0503)	*
Central Thailand	2.1473	(1.0631)	*
Northern Thailand	1.9687	(1.1259)	*
Southern Thailand	3.1137	(1.3260)	**
No children	0.6667	(0.3514)	*
Middle Income	0.4224	(0.4003)	
High Income	0.9980	(0.5095)	**
Higher than Bachelor's degree	-0.5215	(0.5923)	
Bachelor's degree	-0.8565	(0.4903)	*

Note: Standard errors reported in parentheses are robust standard errors. Significance levels are ***at the 1% level, **at the 5% level, and *at the 10% level.

Table 4.1: Estimation Result (Cont.)

Dependent Variable: <i>Premium pet food purchase</i>	Coefficient	(SD)	
Having 1 pet	0.8220	(0.4112)	**
Having 2 pets	0.7419	(0.5746)	**
Having 4 pets	1.5405	(0.7868)	
Having 5 pets	0.6466	(0.5666)	*
Having more than 5 pets	0.9699	(0.4483)	
Keeping pet 1 - 2 years	-0.7791	(0.5455)	
Keeping pet 3 - 5 years	-1.2243	(0.5749)	**
Keeping pet more than 5 years	-0.9669	(0.5644)	*
Owner aged less than 30 -40 years old	1.1856	(1.2093)	
Owner aged 30 - 40 years old	0.5428	(0.5428)	
Owner aged 41 - 50 years old	0.5930	(0.5929)	
Owner aged 51 - 60 years old	0.4784	(0.4784)	
Single-family house	-0.4673	(0.5798)	
Townhouse	-0.5227	(0.6528)	
Apartment/Flat	-0.1996	(1.1765)	
Condominium	-0.5952	(0.7130)	

Note: Standard errors reported in parentheses are robust standard errors. Significance levels are ***at the 1% level, **at the 5% level, and *at the 10% level.

Secondly, the result also confirm that pet humanization attitude affects the premium pet food purchase as we can see that the coefficient appear to be positive as expected and it is significant at the 1% level, presenting evidence that the pet humanization attitude increasing the probability of purchasing premium pet food. The higher level of pet humanization attitude they are, the more likelihood to purchase premium pet food.

For other characteristics, the result shows that cat owners are more likely to purchase premium pet food than owners who have dogs. One of the reason might because of our sample that having cat owners higher than dog owners. However, this result is still going the same way as the dry pet food sale value reported by Euromonitor international, 2022 in section 1; it indicates that within dry cat food valued the premium grade account for about 33% while within dry dog food

market the premium grade sale value account for 21%. Therefore, it is align with the result, presenting that cat owners tend to buy premium grade.

The living region also affects the purchasing decision on premium pet food. Comparing to the northeastern Thailand, pet owners who live in Bangkok, Eastern Thailand, Central Thailand, Northern Thailand and southern Thailand are increasing the probability of purchasing premium pet food. Consistent with the existing pet premium pet food literature, households with no children and households with high income are also increasing the probability of purchasing premium pet food due to its positive coefficients. We have known from the summery statistics that most of pet owners are holding bachelor's degree and higher. However, the result surprising find that the higher education seem to decrease the probability of premium pet food purchase compared to the lower education group, contrasting to the previous study that greater education are more likely to purchase premium pet food. It can be considered for our sample that education level is not as important as the health consciousness and pet humanization attitude for our sample. Even though they hold lower degree, they also tend to purchase premium pet food as long as they are health-conscious person or having pet humanization attitude. Owners who have number of pets between one and two pets increase the probability of purchasing premium pet food compared to owners who have 3 pets which is the average pets from the questionnaire due to its positive coefficient, indicating that it is more affordable to feed pets with premium grade for owner who have less number of pets while it might suffer to feed premium grade with a big group of pets especially during the pandemic situation. Furthermore, there is the increasing probability to buy premium pet food for owners who have 5 pets as well in our sample but with significant at 10% level. Apart from that the duration of keeping pets is also affects the premium pet food purchasing, the result presents that owners who keep pets 3 years and above will decrease the probability of premium pet food so it can be considered that the longer they have experience on keeping pets, they are better in managing pet food for their pets. For example, they can mix several kind of pet food or not all the time buying only premium grade.

On the other hand, the result has shown that age does not affect the premium pet food purchasing since they are not significant which in contrast with the previous literature, found that the younger cohorts are more likely to be premium pet food purchaser (Kumcu & Woolverton, 2015). Moreover, gender and accommodation in this study also do not affect the premium pet food purchasing decision due to its not significant.

SECTION 5: CONCLUSION

Premium pet food for cats and dogs is potentially growing with upward trend nowadays in Thailand and globally since it contains high quality ingredients and promotes the pets' health in the long run. Moreover, with the rise of pet humanization, it simultaneously can lead to the popularity of premium pet food purchase. The human healthy trend make a healthy food become popular so it might also lead to the concern about pets' health among pets owners who have health-consciousness. Thus, this study investigates the likelihood of health-conscious pet owners to purchase premium pet food so that the result can benefit to various stakeholders.

Refer to research question of this study to find out whether health-conscious pet owners also concern their pet's health by investing more with premium pet food, the result shows that health-consciousness affect the purchasing decision on premium pet food. Therefore, the owners with health-consciousness increase the probability of purchasing premium pet food. Furthermore, the result also shows that owners with pet humanization attitude are more likely to purchase premium pet food which is related to the finding of Kumcu and Woolverton, (2015). Moreover, the finding shows that cat owners are more likely to purchase premium pet food than owners who have dogs which related to the premium pet food market value for cats and dogs in 2021.

Demographics are found to affect the premium pet food purchase but some of them are not. Pet owners who have no children and owners with high income are increasing the probability of purchasing premium pet food, reflecting that premium grade is coming with higher price so it tend to be more affordable enough for high income owners and no children owners who have less financial burden for family members. Comparing to the northeastern Thailand, pet owners who live in Bangkok, Eastern Thailand, Central Thailand, Northern Thailand and southern Thailand are increasing the probability of purchasing premium pet food. For other characteristics, the finding shows that owners who have pets less than 3 pets are more likely to be premium pet food purchaser. In other word, it can be understood that during the pandemic it might causes difficulty to pet owners who have large number of pets to feed higher price pet food. On the other hand, it is surprisingly that the longer duration of having pet and higher education owners are decreasing the probability of purchasing premium pet food. Moreover, the result

has shown that age, gender, and accommodation types do not affect the premium pet food purchasing.

These findings have several implications for pet food marketing as consumers demand for premium pet food still provide the room for opportunity, understanding purchasing behavior will lead to a successful marketing. The cat food market is extending wide opportunity as the cat owners are willing more to spend their money with healthy cat so working on new strategy to attract this group are quite necessary. Moreover, the newly pet owners who start to have 1 or 2 pets are also available for pet food producers to attract them with the premium grade. The highlight customer is the health-conscious group because this healthy trend are likely to continue growing as same as pet humanization. Therefore, there will be a lot of health-conscious people entry pet society in the future. With such a reason, the producers also can develop premium pet food with functional as high quality as possible to satisfy and attract this group for long term.

There are some limitations in this study. Firstly, this study was conducted in the period of COVID-19 pandemic so the perspective of respondents toward pet food purchasing may a bit different from the normal situation. Therefore, if the same kind of study will be conducted in the future, it may find out some diverse aspects. Secondly, due to the short duration to distribute and gather the questionnaire, main respondents come from the convenience sample which cannot fully control so that it may not be the most effective sample we could have. For the future study, it will be better if the sample is selected under the control such as the proportion of male and female who answering the questionnaire or choosing sample from several source, not only on pet lover pages on social media in order to receive more different aspects from respondents.

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APPENDIX

QUESTIONNAIRE

Dear respondents,

This survey created as part of the individual study for Master's degree in Business and Managerial Economics, Chulalongkorn University. Focus on examining the relationship between the health-conscious pet owners and purchasing behavior toward the premium dry pet food for cat and dog. The survey consists of 4 parts: Personal information, Pet food information, Health consciousness evaluation and pet humanization evaluation. It involves 43 questions and takes around 5 - 10 minutes to complete.

Part 1: Personal information

Please check ✓ in the box that relevant to your answer.

1. What is your gender?

- Male

 Female
 Others

 Rather not say.

2. What is your age range?

- Under 30

 30 - 40

 41 - 50
 51 – 60

 More than 60

3. What is your marital status?

- Single
 Married with children

 Married with no children

4. What is your monthly income range?

- Under 20,000 THB

 20,001 – 30,000 THB
 30,001 – 40,000 THB

 40,001 – 50,000 THB
 50,001 – 60,000 THB

 > 60,000 THB

5. What is your education background?

- Under bachelor's degree
 Bachelor's degree

 Higher than bachelor's degree

6. What is your currently living area in Thailand?

- | | | |
|----------------------------------|--------------------------------|------------------------------------|
| <input type="checkbox"/> Bangkok | <input type="checkbox"/> North | <input type="checkbox"/> Northeast |
| <input type="checkbox"/> Central | <input type="checkbox"/> East | <input type="checkbox"/> South |

7. In which type of housing do you currently live?

- | | | |
|--|-------------------------------------|--------------------------------------|
| <input type="checkbox"/> Single-family house | <input type="checkbox"/> Townhouse | <input type="checkbox"/> Condominium |
| <input type="checkbox"/> Apartment/Flat | <input type="checkbox"/> Shop house | <input type="checkbox"/> Other |

Part 2: Pet and pet food information

Please check ✓ in the box that relevant to your answer.

1. What pet do you have?

- | | | |
|------------------------------|------------------------------|-------------------------------|
| <input type="checkbox"/> Dog | <input type="checkbox"/> Cat | <input type="checkbox"/> Both |
|------------------------------|------------------------------|-------------------------------|

2. How many dogs or cats or both do you have?

- | | | |
|----------------------------|----------------------------|--------------------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 |
| <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> more than 5 |

3. How long have you kept your dogs and cats?

- | | |
|---|--|
| <input type="checkbox"/> Less than 1 year | <input type="checkbox"/> 1 – 2 years |
| <input type="checkbox"/> 3 – 5 years | <input type="checkbox"/> More than 5 years |

4. What grade of pet food you purchase for your pet? (Holistic and grain free are classified as premium grade)

- | |
|---|
| <input type="checkbox"/> Always purchase standard grade. |
| <input type="checkbox"/> Not always but > 50% of purchasing in a year buy standard grade. |
| <input type="checkbox"/> Always buy premium grade. |
| <input type="checkbox"/> Not always but > 50% of purchasing in a year buy premium grade. |

5. Which brand or formula do you choose? For example Whiskas, Me-O, Me-O gold, Purina one, Royal Canin, Hill's, Orijen, Earthborn, Avoderm, Canagan, Taste of the wild and etc.

- (Please specify)

6. How much do you spend per month for pet food?

- Less than 1,000 THB 1,000 – 2,000 THB
 2,001 – 3,000 THB More than 3,000 THB

7. Which factors do you concern the most when you purchase pet food?

- Price Nutrition / quality of ingredient
 Brand reputation Packaging
 Recommendation by the vet Other

Part 3: Health-consciousness of pet owner

Please choose the scale that relevant to your thought the most.

(1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly agree)

Question	1	2	3	4	5
1. I try to exercise regularly.					
2. No matter how busy I am, I always find time each week to do a few hours of exercises.					
3. I am very self-conscious about my health.					
4. I usually read the ingredients on food labels.					
5. I try to avoid foods that are high in fat and cholesterol.					
6. I try to avoid foods with high salt content and additive.					
7. I frequently purchase "health food/natural food.					
8. I try to monitor the nutritional value of my food.					
9. I try to have enough sleep about 6-8 hrs. every day.					
10. I try to drink enough clean water a day.					
11. Living life without disease and illness is very important to me.					
12. I am concerned about common health hazard and try to take action to prevent them.					
13. I don't smoke.					

Question	1	2	3	4	5
14. I try to avoid/reduce eating junk food.					
15. I try to avoid/reduce drinking alcohols.					

Part 4: Pet humanization of pet owner

Please choose the scale that relevant to your thought the most.

(1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly agree)

Question	1	2	3	4	5
1. I care for my pet and choose foods that provide all the required nutrients for a healthy life.					
2. I am responsible for the health and well-being of my pet, so my food choices are important.					
3. I take as much care in choosing my pet's food as I do with other members of my family.					
4. I consider my pet as a family member.					
5. I celebrate the birthday and buy present for my pet.					
6. I purchase clothing for my pets occasionally.					
7. I exercise with my pets or play together every day.					
8. I let my pets sleep where they sleep-snuggled up in bed.					
9. I schedule them to see the vet regularly.					
10. I keep up with their vaccinations.					
11. I take my pet to the vet immediately when he or she get injured or sick.					
12. I have high attachment with my pets. If you lost them, it will make you feel negatively such as worry and sad.					
13. I believe in animal's right and support the animal protection law.					
14. I get upset when I hear of cases of animal abuse.					

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