



INDEPENDENT STUDY

FEASIBILITY STUDY

OF

DOG FOOD DELIVERY

WITH

SUBSCRIPTION BUSINESS MODEL

NATTAWUT BOONYOSSAWAT

GRADUATION SCHOOL, KASETSART UNIVERSITY

2020



INDEPENDENT STUDY

FEASIBILITY STUDY

OF

DOG FOOD DELIVERY

WITH

SUBSCRIPTION BUSINESS MODEL

NATTAWUT BOONYOSSAWAT

GRADUATION SCHOOL, KASETSART UNIVERSITY

2020

Nattawut Boonyossawat 2020: Feasibility Study of Dog Food Delivery with Subscription Business Model. Master of Engineering (Industrial Engineering), Major Field: Industrial Engineering, Department of Industrial Engineering. Advisor: Mr. Punnamee Sachakamol, Ph.D. 54 pages.

This research is a feasibility study of dog food delivery with subscription business model. The aim of this research was to study the feasibility of investment based on research assumption. Cash flow-based company valuation is applied for this studying of the feasibility.

Subscription business model is popular in many industries but does not have a well-known company that applies in dog food delivery in Thailand in 2020. So, this research will help investors who are interested.

Student's signature

Advisor's signature

_____/_____/_____

ACKNOWLEDGEMENTS

This project is accomplished with many helps from Dr. Punnamee Sachakamol, project advisor who provides knowledge, list of references, advices, and guidelines for research work. Researcher would like to thank for your kindness.

And researcher would like to thank Dr. Naraphorn Paoprasert, project co-advisor who gives advice additionally. In addition, I would like to thank all my friends in class who help in many ways.

Lastly researcher would like to thank Maruey Knowledge & Resource Center, The Stock Exchange of Thailand. I use these places to borrow their resources and make my skill a lot. I strongly recommend who are interested especially in finance to go there.

NATTAWUT BOONYOSSAWAT

JANUARY 2020

TABLE OF CONTENTS

		Page
Chapter 1	Introduction	1
Chapter 2	Concept and theories	6
Chapter 3	Methodology	21
Chapter 4	Business model	22
Chapter 5	Marketing plan	26
Chapter 6	Organization plan	41
Chapter 7	Financial plan	46

LIST OF TABLES

	Page
Table 1-1: Pet population in Thailand	1
Table 1-2: Pet portion in Thailand	1
Table 1-3: Pet market size in Thailand	2
Table 1-4: Pet market size in Thailand (In details)	2
Table 1-5: Pet food market size in Thailand	2
Table 5-1: Dog Kingdom package price	32
Table 5-2: Shopee price at 8 Mar'20	33
Table 5-3: Makro price at 8 Mar'20	33
Table 5-4: Marginal profit	34
Table 5-5: Communication plan	38
Table 5-6: Communication timeline	38
Table 5-7: Communication expenses	38
Table 5-8: Customer per month	40
Table 5-9: quantity of delivery each year	40
Table 5-10: quantity of delivery each year by package size	40
Table 6-1: Staff job description	41
Table 6-2: Staff benefit	41
Table 6-3: Delivery staff time schedule	42
Table 6-4: Expected delivery staff monthly benefit	43
Table 6-5: Staff headcount	44
Table 6-6: Staff expenses	44
Table 6-7: Head office & warehouse expenses	44
Table 6-8: Website & mobile application expenses and depreciation	45
Table 7-1: Initial investment	46
Table 7-2: Capital structure	46

LIST OF TABLES

	Page
Table 7-3: Bank payback plan	47
Table 7-4: Working capital	49
Table 7-5: Income statement	50
Table 7-6: Free cash flow table	50
Table 7-7: Present value table	51
Table 7-8: Project KPI	51
Table 7-9: Sensitivity analysis	52

LIST OF FIGURES

	Page
Figure 1-1: Concept of business (Brand “Dog Kingdom”)	4
Figure 1-2: Logo of “Dog Kingdom”	4
Figure 2-1: Example of products with subscription business model	6
Figure 2-2: Discounted cash flow valuation model	7
Figure 2-3: Example of income statement	10
Figure 2-4: Demographic surveyed	14
Figure 2-5: Dog food buying channel	15
Figure 2-6: Dog food format	15
Figure 2-7: Dog food buying quantity per times (Dry food)	16
Figure 2-8: Dog food buying quantity per times (Wet food)	16
Figure 2-9: Dog food buying frequency	17
Figure 2-10: Dog food expenses per times	17
Figure 2-11: Dog food brands	18
Figure 2-12: Quantity of Dog that surveyed people have	18
Figure 2-13: Dog food buying reason	19
Figure 2-14: Dog food loyalty	19
Figure 2-15: Dog breed that surveyed people have	20
Figure 4-1: Dog Kingdom business model canvas	22
Figure 4-2: Dog Kingdom Five Force Analysis	23
Figure 4-3: Dog Kingdom Value Chain Analysis	24
Figure 5-1: Dog food segmentation	26
Figure 5-2: Primary target	28
Figure 5-3: Secondary target	28
Figure 5-4: Dog Kingdom positioning	29
Figure 5-5: Dog kingdom product	30
Figure 5-6: Product package	30

LIST OF FIGURES

	Page
Figure 5-7: Dog food consumption	31
Figure 5-8: Service flow chart	39
Figure 6-1: Position and office chart	41
Figure 6-2: Other staff assumption	43
Figure 6-3: Company website & mobile app requirement	45
Figure 7-1: Interest rate from Kasikorn bank (28 Jun'20)	47
Figure 7-2: Cost of capital	48

CHAPTER 1

INTRODUCTION

1. Background

Pet is a good friend for everyone. Not only pets are friends but also have many benefits for us. For example, if you have a dog, most of dogs can protect your house. If you have a cat, most of cats can chase your house invader like rats. And so on.

From survey, they found that the most popular pet in Thailand that people treats is a dog.

Pet population	
Year	Million
2560	13.2
2561	13.7

Source: Thonglor International Pet Hospital

Table 1-1: Pet population in Thailand

Pet portion	
Dog	61%
Cat	24%
Others	15%
Total	100%

Source: Thonglor International Pet Hospital

Table 1-2: Pet portion in Thailand

Pet market size looks like small market for some people. But in fact, pet industry is big. And market growth is still positive trend.

Pet market size	
Year	Million
2560	29,300
2561	32,230
2562	35,453

Source: Marketeer

Table 1-3: Pet market size in Thailand

Unit: Million Baht

Pet market size						
Year	Food		Healthcare		Clothes & toy	
2560	13,300	45%	9,300	32%	6,700	23%
2561	14,630	45%	10,230	32%	7,370	23%

Source: Marketeer

Table 1-4: Pet market size in Thailand (In details)

If take a look only pet food, the amount of this industry is around fifteen thousand million baht per year and growth every year.

Unit: Million Baht

Pet food market size		
Year	Food	Growth
2560	13,300	
2561	14,630	10%
2562	15,000	3%

Source: Marketeer

Table 1-5: Pet food market size in Thailand

And if you treat some pets, you must give your time to take care. You have to feed food to your pet. You have to bring your pet to exercise. You have to bring your pet to pet hospital.

But in some activities that you have to do regularly like buy a dog food. Researcher found that It is still your pain point.

For example, in buying food especially dog food. If you would like to buy dog food. You will go to shopping mall or convenience store to buy it. And you have to carry them from the shop to your home. Some people will buy 1-20+ kg in shop and have to carry them to home. It is not convenience for girl especially a tiny girl.

But some people will argue that It is an easy problem to figure out. Instead of order from shopping mall or convenience store, we should change to buy thru online shop. They will bring a dog food to your door.

But it is still not convenience because you have to order periodically even though this is a thing that you are regularly buy.

So, Researcher would like to propose a business innovation called "Dog Kingdom", this is an online delivery dog food business. Our business will bring dog food to your home. It is not fixing your schedule you can order us to deliver earlier or later your appointment date. You can apply like you apply movie streaming platform (It is a subscription business model). Our business will give a better price.

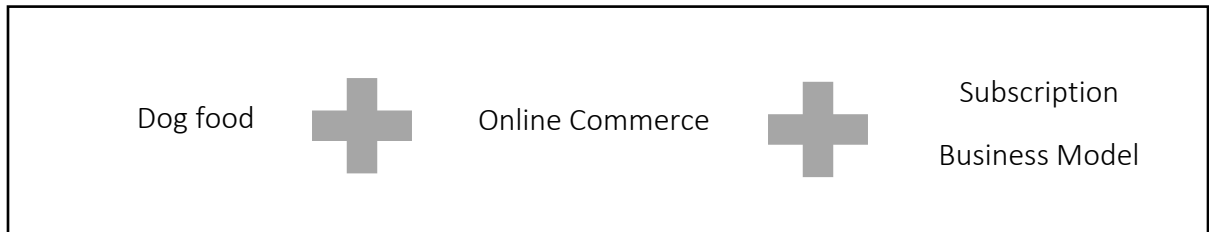


Figure 1-1: Concept of business (Brand "Dog Kingdom")



Figure 1-2: Logo of "Dog Kingdom"

2. Objective

To study feasibility of dog food delivery with subscription business model

3. Scope

1. Study only dog food
2. Assumption based on Yaloe (2014) and Cerbo (2017)
3. Valuate business with discounted cash flow method

4. Benefit

1. Knowing initial investment based on assumption
2. Knowing financial business output

(Discounted payback period, Net present value, and Modified internal rate of return)

CHAPTER 2

CONCEPT AND THORIES

In this study, researcher studied the concept, documents, and related research to be used for determining guidelines for conduction research. Especially finance analysis theory. The content according to the order as following.

1. Concept

Subscription business model

The subscription business model is a business model in which a customer must pay a recurring price at regular intervals for access to a product or service. The model was pioneered by publishers of books and periodicals in the 17th century and is now used by many businesses and websites. For example, Windows operating system from Microsoft they get a lot of revenues from this model. In the past they use other models (sell product at once) and they found that some products are not popular as they expect, moreover nowadays a lot of competitors want to entry this market.

In order to fix this problem, researcher finds that this business model can fix this problem because it can serve customers periodically. In view of customers, this may be convenient for some customers. In view of entrepreneur, this model may reduce finance risk because business can get recurring revenue.

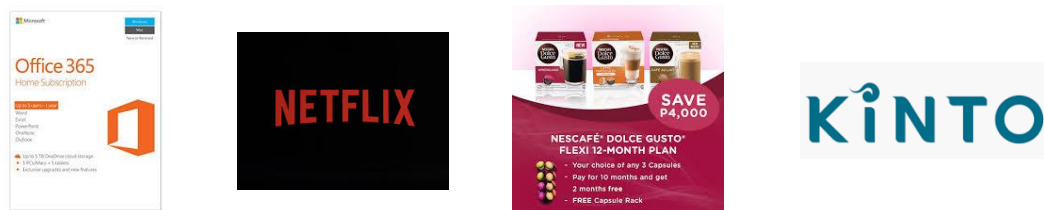


Figure 2-1: Example of products with subscription business model

2. Theory

2.1.1. Valuation Model

A valuation is the analytical process of determining the current or projected worth of an asset or a company. A valuation can be useful when trying to determine the fair value of a security. There are many techniques used for doing a valuation. And it can be grouped into 4 categories as following.

1. Asset based valuation
2. Earnings Based Valuation
3. Cash Flow-Based Valuation
4. Others (Sum of the parts)

In this research, it will use only cash flow-based valuation. This method believes that the value of a company is estimated from the value of expected current and future free cash flows (FCF), which are discounted to the present value by the discount rate (WACC rate). It is called discounted cash flow (DCF).

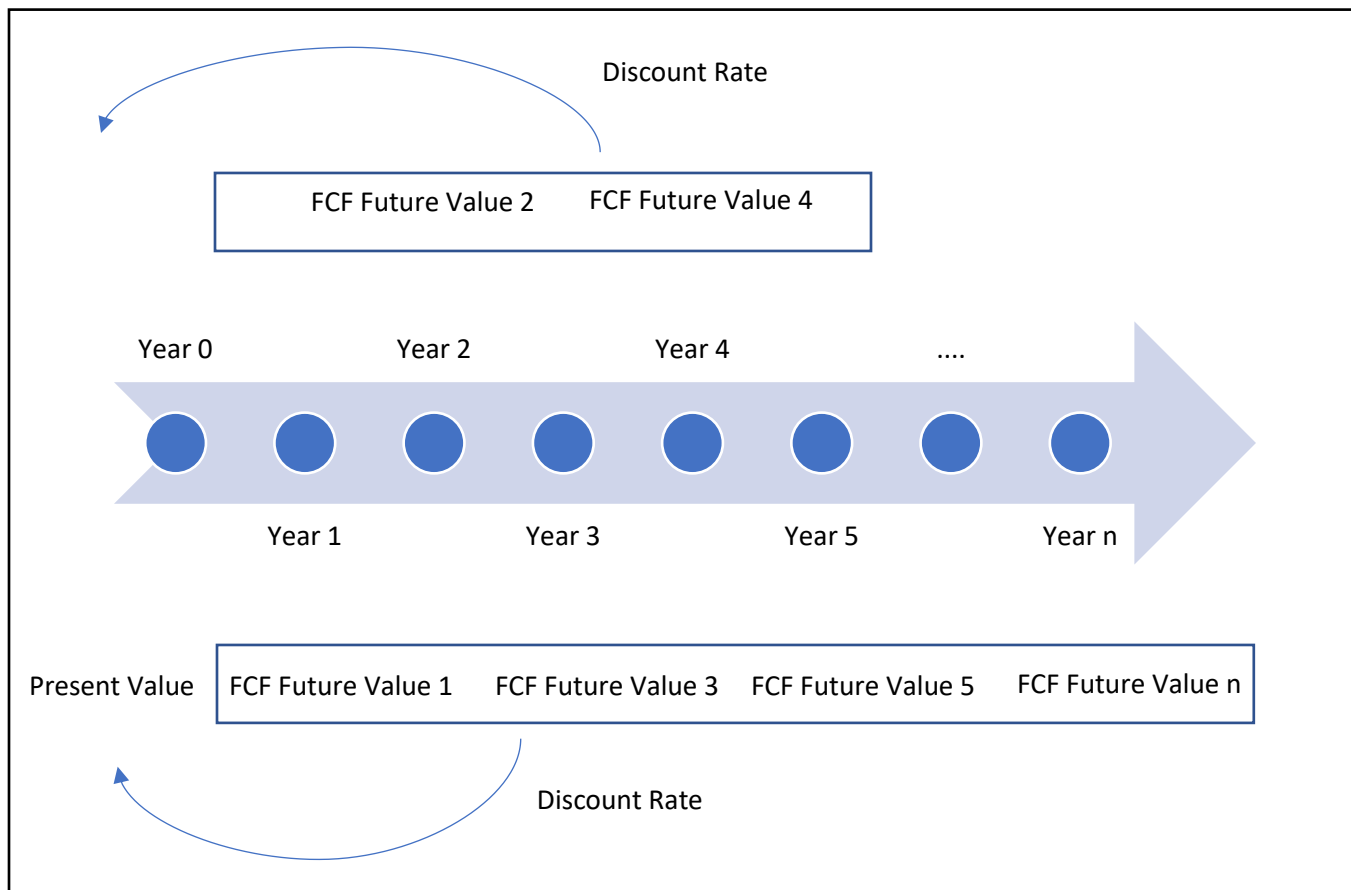


Figure 2-2: Discounted cash flow valuation model

2.1.2. Free Cash Flow (Free Cash Flow to Firm)

Free cash flow (FCF) is the cash a company produces through its operations after subtracting any outlays of cash for investment in fixed assets like property, plant and equipment. Unlike net income, free cash flow is a measure of profitability that excludes the non-cash expenses of the income statement and includes spending on equipment and assets as well as changes in working capital. Unlike net cash flow that they include finance from financing. Free cash flow is commonly used in valuation. While FCF is a useful tool, it is not subject to the same financial disclosure requirements as other line items in the financial statements.

Formula of free cash flow to firm is shown as following.

Factor	Location
+ Net Income	Income Statement
+ Interest Expense	Income Statement
- Tax Shield on Interest Expense	Income Statement (Net Interest Expense X Tax Rate)
+ Non-cash Expenses (Depreciation, Amortization, etc.)	Income Statement
- Change in (Current Assets - Current Liabilities)	Balance Sheet (current period and previous period)
- Capital Expenditures (CAPEX)	Balance Sheet: Property, Plant, and Equipment (current period and previous period)
= Free Cash Flow	

or

Factor	Location
+ Cash Flow from Operating Activities	Statement of Cash Flows
+ Interest Expense	Income Statement
- Tax Shield on Interest Expense	Income Statement
- Capital Expenditures (CAPEX)	Statement of Cash Flows (Cash Flow from Investing Activities)
= Free Cash Flow	

or

Factor	Location
+ EBIT x (1- Tax Rate)	Income Statement
+ Non-cash Expenses (Depreciation, Amortization, etc.)	Income Statement
- Change in (Current Assets - Current Liabilities)	Balance Sheet (current period and previous period)
- Capital Expenditures (CAPEX)	Balance Sheet: Property, Plant, and Equipment (current period and previous period)
= Free Cash Flow	

2.1.3. Present Value

Present value (PV) is the value of your future money in today's dollars. The concept is that a dollar today is not worth the same amount as a dollar tomorrow.

$$PV = FV / (1+r)^n$$

Where:

PV = Present value is the value on a given date of a payment.

FV = This is the projected amount of money in the future

r = the discounting rate.

n = number of years

2.1.4. The Weighted Average Cost of Capital (WACC)

The weighted average cost of capital (WACC) is the rate that a company is expected to pay on average to all its security holders to finance its assets.

In the case where the company is financed with only equity and debt, the average cost of capital is computed as follows:

WACC Formula and Calculation

$$WACC = \frac{E}{V} * Re + \frac{D}{V} * Rd * (1 - Tc)$$

where:

Re = Cost of equity

Rd = Cost of debt

E = Market value of the firm's equity

D = Market value of the firm's debt

V = E + D = Total market value of the firm's financing

E/V = Percentage of financing that is equity

D/V = Percentage of financing that is debt

Tc = Corporate tax rate

WACC is the rate that will discount future value to present value

2.1.5. Income Statement

Income statement is one of the three important financial statements used for reporting a company's financial performance over a specific accounting period.

This statement is to show whether company operated at a profit or loss for period of time.

INCOME STATEMENT				
	12/31/2014	12/31/2015	\$ Change from 2014 to 2015	% Change from 2014 to 2015
REVENUE	\$ 1,100,000	\$ 1,520,500	\$ 420,500	38%
EXPENSES:				
Cost of Good Sold ('C.O.G.S')	\$ 600,000	\$ 700,000	\$ 100,000	17%
GROSS PROFIT	\$ 500,000	\$ 820,500	\$ 320,500	64%
<i>GROSS PROFIT MARGIN (% OF REVENUE)</i>				
	45%	54%		
Sales and Marketing ('S&M')	\$ 100,000	\$ 120,000	\$ 20,000	20%
<i>S&M as a % of Revenue</i>				
	9%	8%		
Research and Development ('R&D')	\$ 50,000	\$ 60,000	\$ 10,000	20%
<i>R&D as a % of Revenue</i>				
	5%	4%		
General and Administrative ('G&A')	\$ 75,000	\$ 85,000	\$ 10,000	13%
<i>G&A as a % of Revenue</i>				
	7%	6%		
TOTAL OPERATING EXPENSES	\$ 225,000	\$ 265,000	\$ 40,000	18%
OPERATING PROFIT (E.B.I.T.D.A.)	\$ 275,000	\$ 555,500	\$ 280,500	102%
<i>OPERATING PROFIT MARGIN (% OF R)</i>				
	25%	37%		
Interest	\$ 55,000	\$ 49,500	\$ (5,500)	-10%
Depreciation & Amortization	\$ 5,000	\$ 5,000	\$ -	0%
PROFIT BEFORE TAXES	\$ 215,000	\$ 501,000	\$ 286,000	133%
Taxes	\$ 53,750	\$ 125,250	\$ 71,500	133%
<i>Taxes as a % Profit Before Taxes</i>				
	25%	25%		
Net Profit (or 'Net Income')	\$ 161,250	\$ 375,750	\$ 214,500	133%

Figure 2-3: Example of income statement

2.2. Financial Indicator

There are so many financial indicators, but this research will use 3 metrics to measure business

2.2.1. Net Present Value

Net present value (NPV) is the difference between the present value of cash inflows and the present value of cash outflows over a period of time.

$$NPV = \sum_{t=1}^n \frac{R_t}{(1+i)^t}$$

where:

R_t = Net cash inflow-outflows during a single period t

i = Discount rate or return that could be earned in alternative investments

t = Number of timer periods

A positive net present value indicates that the projected earnings generated by a project - in present dollars - exceeds the anticipated costs, also in present dollars. It is assumed that an investment with a positive NPV will be profitable, an investment with a negative NPV will result in a net loss.

2.2.2. Modified Internal Rate of Return

The modified internal rate of return, or MIRR, is a financial formula used to measure the return of a project and compare it with other potential projects. It uses the traditional internal rate of return of a project and adapted to assume the difference between the reinvestment rate and the investment return.

MIRR portrays more accurately than internal rate of return (IRR) . The internal rate of return is a discount rate that makes the net present value (NPV) of all cash flows from a particular project equal to zero. MIRR aims to resolve some problems with the IRR. For example, IRR can be found for projects with alternating positive and negative cash flows, which leads to confusion and ambiguity (MIRR finds only one value). And IRR is misapplied, under an assumption that interim positive cash flows are reinvested at the same rate of return as that of the project that generated them (IRR is more optimistic)

If the MIRR is higher than the expected return, the investment should be undertaken. And if the MIRR is lower than the expected return, the project should be rejected.

Also, if two projects are mutually exclusive, the project with the higher MIRR should be undertaken.

$$MIRR = \sqrt[n]{\frac{FV(\text{Positive cash flows} \times \text{Cost of capital})}{PV(\text{Initial outlays} \times \text{Financing cost})}} - 1$$

where:

$FVCF(c)$ = the future value of positive cash flows

$PVCF(fc)$ = the present value of negative cash flows

n = number of periods

2.3. Discounted Pay Back Period

The discounted payback period is a capital budgeting procedure used to determine the profitability of a project. A discounted payback period gives the number of years it takes to break even from undertaking the initial expenditure, by discounting future cash flows and recognizing the time value of money. The metric is used to evaluate the feasibility and profitability of a given project.

The more simplified payback period formula, which simply divides the total cash outlay for the project by the average annual cash flows, doesn't provide as accurate of an answer to the question of whether or not to take on a project because it assumes only one, upfront investment, and does not factor in the time value of money.

A general rule to consider when using the discounted payback period is to accept projects that have a payback period that is shorter than the target timeframe. A company can compare its required break-even date for a project to the point at which the project will break even according to the discounted cash flows used in the discounted payback period analysis, to approve or reject the project.

3. Related literature

Yalee (2014) studies the Factors Influencing Consumer's Decision to Purchase Prefabricated Dog Food in Bangkok and Metropolitan Region.

By using the survey method that the population of the study is the groups of dog raisers who purchased for prefabricated dog food. The study was implemented in the area of Bangkok and metropolitan through questionnaire survey, and the data was received from all 415 completed replied questionnaires.

From the study results, it is found that majority of the sample is female aged between 20-30 years old. Moreover, the mainly education level of the sample is bachelor's degree or equivalent. Furthermore, the majority of the sample is private company's employees who have average monthly income from 15,000 to 30,000 Baht. According to the survey, it is also discovered that the most popular kind of dog food is dry type (Grain-based Diets) that the purchasing amount for each time is 1-2 kgs., and the purchasing frequency is 1-2 times per month. In addition, it is also found that the average expense for dog food buying is from 100 to 300 Baht, and

Pedigree is the most popular band among others. The main reason of the consumers for purchasing Pedigree is that it is the brand which dogs like to consume. In addition, it is the brand which has variety, full of nutrition and also appropriate for all dog ages and breeds. Most of the consumers do not change the dog food's brand because they favor in both quality and price of the band they choose. However, the reason they may change the brand is that there is no such brand they need in the stores so they choose another brand instead, and another reason is that their dogs do not want to eat food because they bored with the same brand. Furthermore, the result also suggested that the place where consumers purchase for dog food is large retailers. In addition, the average number of dogs they raise is 1, and the dogs that most consumers have raised are small dogs. Besides, the research result also discovered that there are factors that affected the consumer's purchase of prefabricated dog food in Bangkok and metropolitan area comprised of 4 factors which are reasonable price, variety of packaging and product flavor respectively. These are positive factors affected the decision to buy dog food. Moreover, the advertisement is the factor concerned as negative factor for consumers to buy dog food. For the hypothesis testing about whether demographic factors in terms of gender, age, education level, professions and monthly income have affected the decision level of dog food purchasing or not, the result shows that gender, education level, professions and monthly income are not the factors affected for consumer decision whereas people with different ages have different level of decision in dog food purchasing that the people aged between 31-40 years old have the highest decision level of dog food buying in Bangkok and metropolitan area.

	Quantity	Portion (%)
1. Gender		
Male	117	28.2%
Female	298	71.8%
2. Age		
Below 20 Year	8	1.9%
20 - 30 Year	224	54.0%
31 - 40 Year	123	29.6%
41 - 50 Year	26	6.3%
51 - 60 Year	33	8.0%
60 Year +	1	0.2%
3. Education		
Below bachelor's degree	21	5.1%
Bachelor's degree	248	59.8%
Master's degree	144	34.7%
Upper master's degree	2	0.5%
4. Occupation		
Student	24	5.8%
Gov. Officer	159	38.3%
Employee	174	41.9%
Entrepreneur	45	10.8%
Housewife	9	2.2%
Freelance	4	1.0%
5. Income per month		
Below 15,000 THB	34	8.2%
15,000 - 30,000 THB	178	42.9%
30,001 - 45,000 THB	82	19.8%
45,001 - 60,000 THB	53	12.8%
Upper 60,000 THB	68	16.4%

Figure 2-4: Demographic surveyed

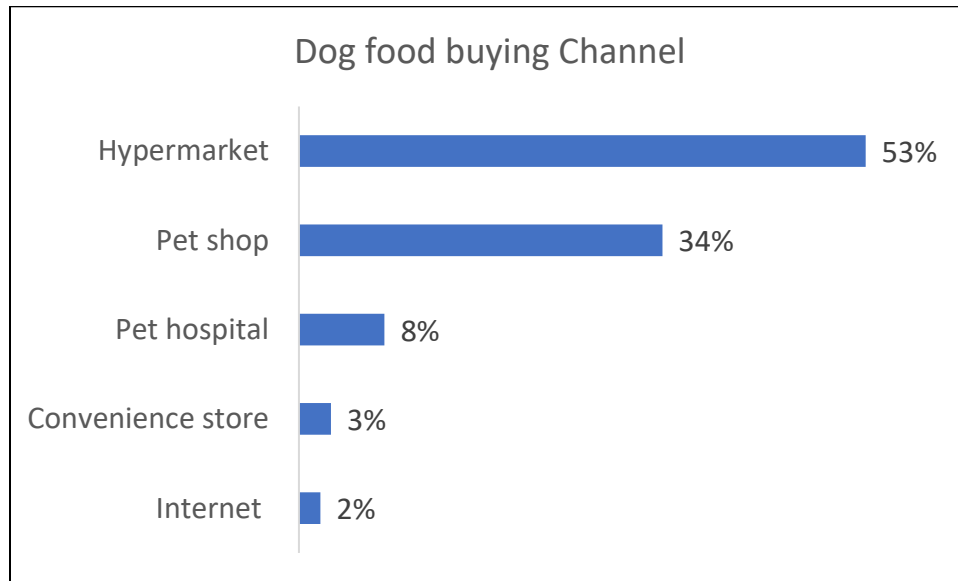


Figure 2-5: Dog food buying channel

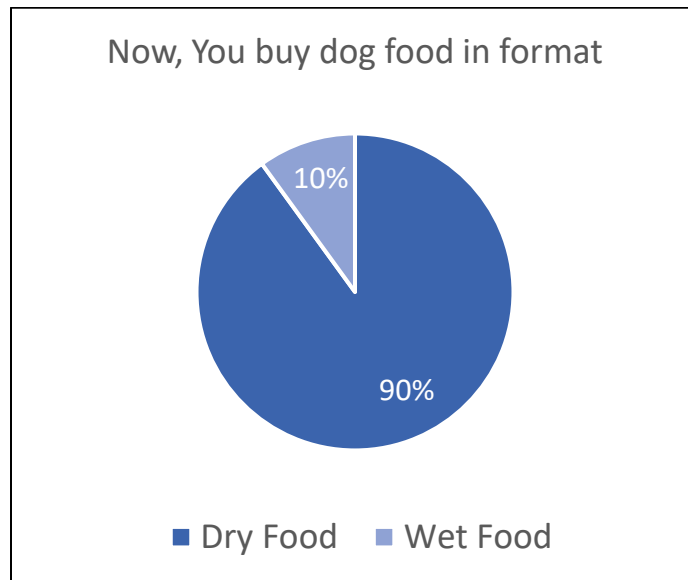


Figure 2-6: Dog food format

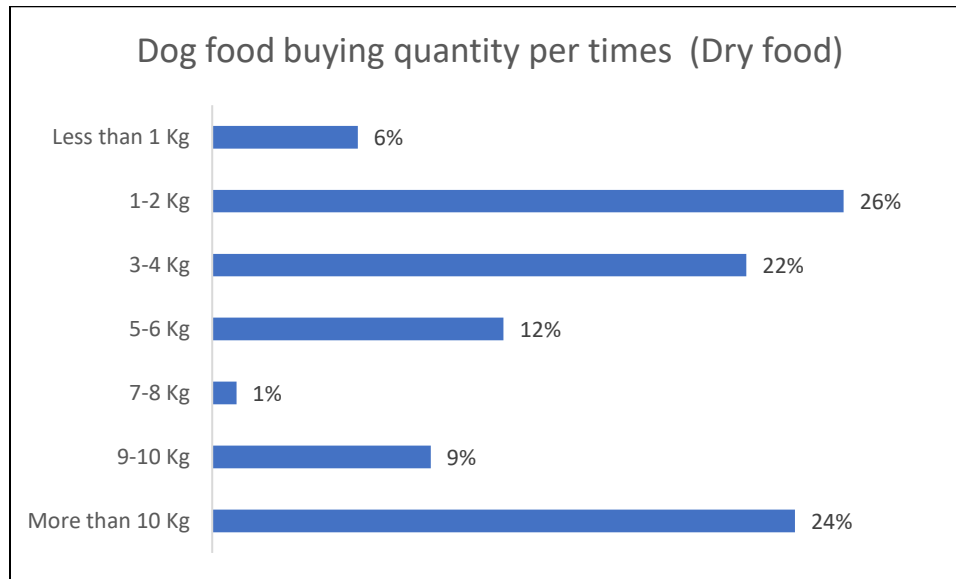


Figure 2-7: Dog food buying quantity per times (Dry food)

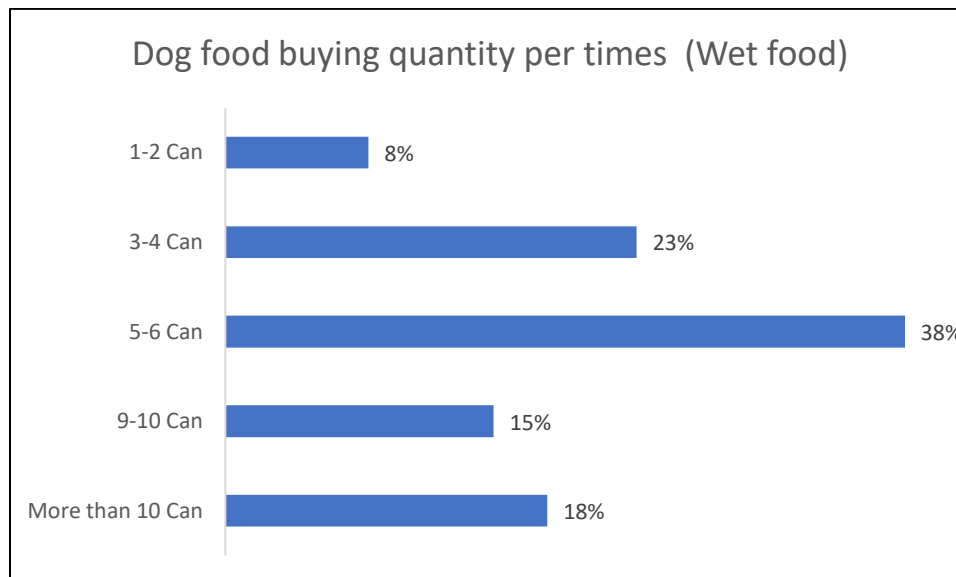


Figure 2-8: Dog food buying quantity per times (Wet food)

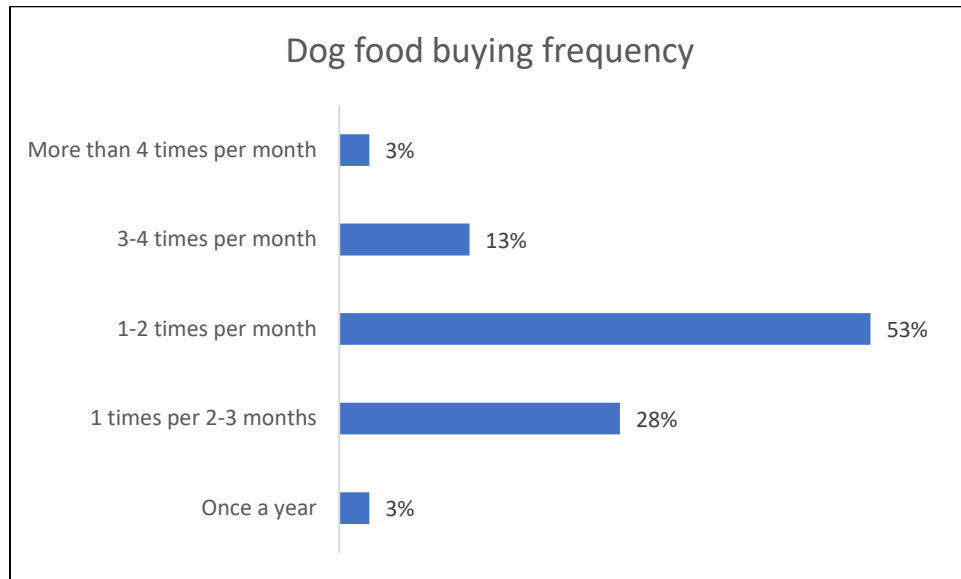


Figure 2-9: Dog food buying frequency

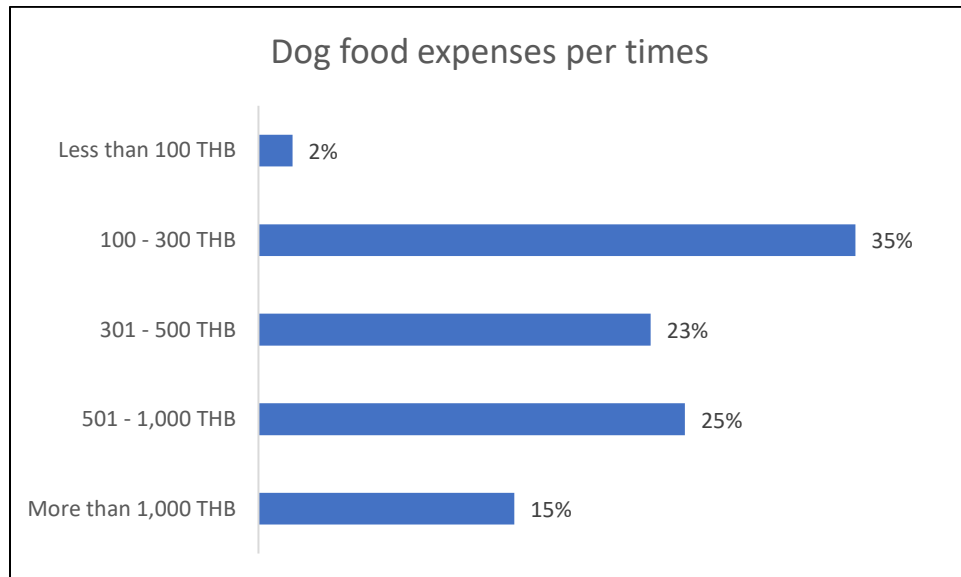


Figure 2-10: Dog food expenses per times

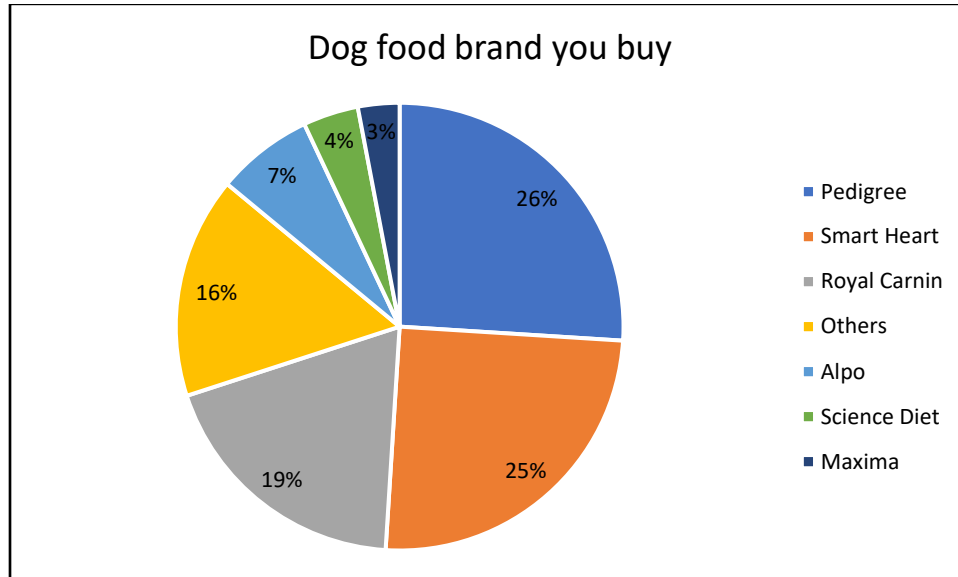


Figure 2-11: Dog food brands

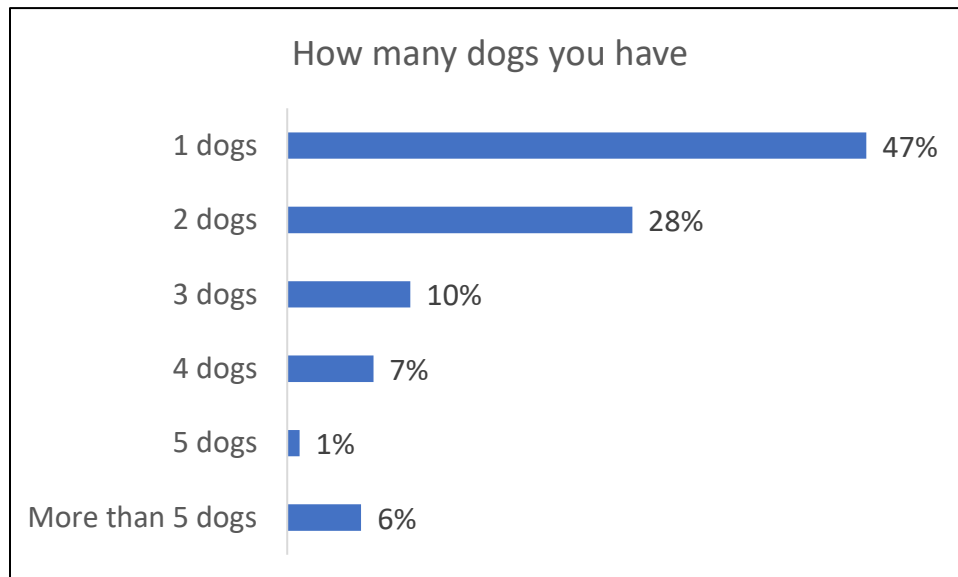


Figure 2-12: Quantity of Dog that surveyed people have

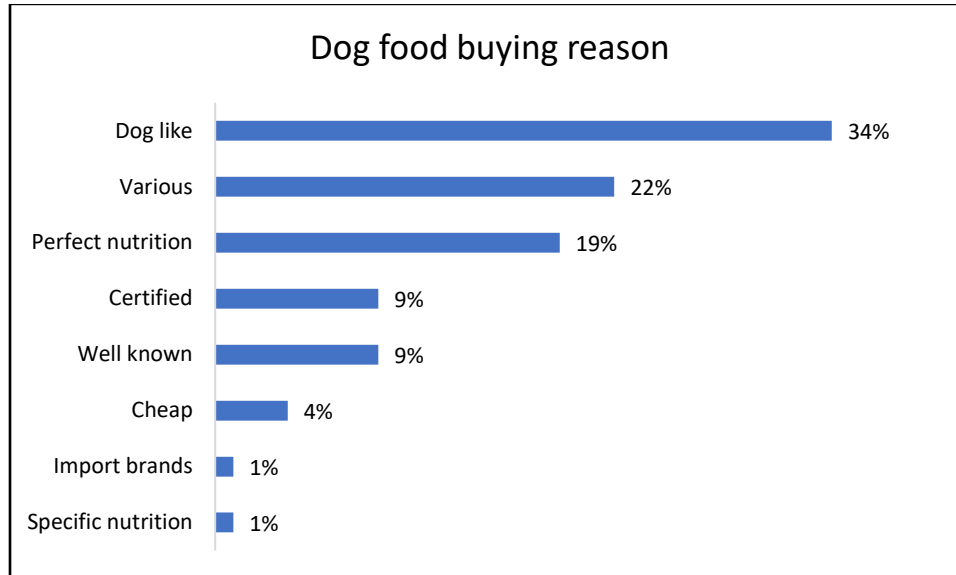


Figure 2-13: Dog food buying reason

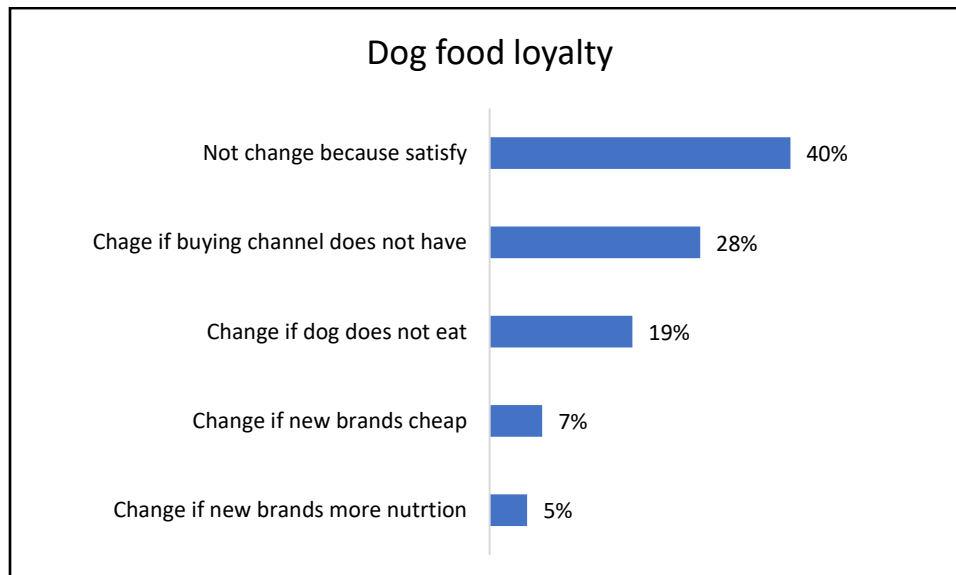


Figure 2-14: Dog food loyalty

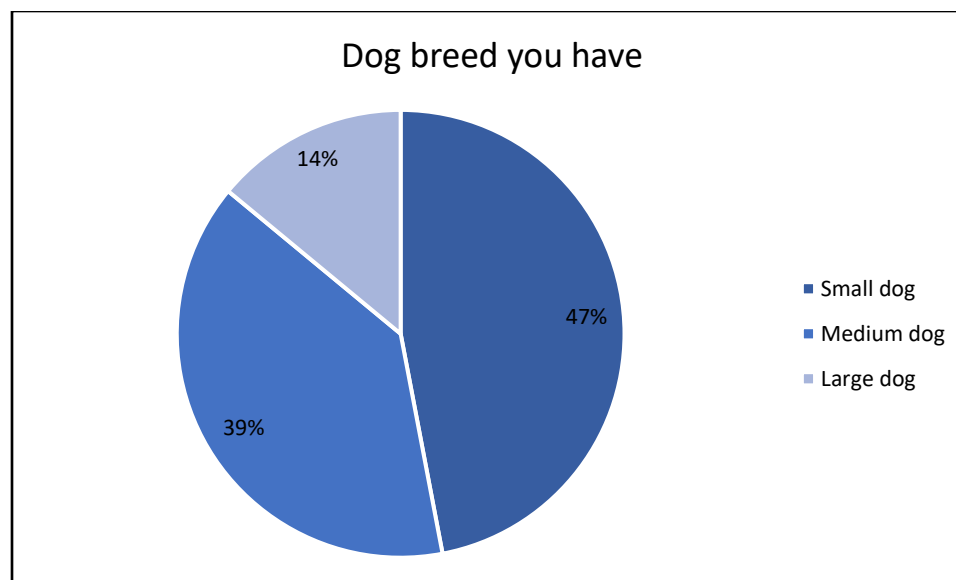


Figure 2-15: Dog breed that surveyed people have

For summary, Yalee (2014) research is important for us to develop business model. But some point of question may be sensitive because of time (this research surveyed since 2014). For example, channel that surveyed in 2014, surveyed people buy dog food at internet only 2%. If we survey again, researcher assume that it will be changed.

So, this research is a guideline to develop business for this research only and have to survey again if investor would like to set up a business.

Another literature review is Cerbo (2017) literature review. He studied functional foods in pet nutrition: Focus on dogs and cats.

He concluded that dietary intervention might be a valuable alternative for treatment of cognitive deficits and behavioral disturbances in dogs.

But the difficulty understanding pet food labels, consumers' education becomes a key issue for the marketing of functional foods.

In addition, research on pet food is still scarce. Accurate claims on food labels help consumers select products that satisfy their desire to promote animal care and improve their pets' health.

CHAPTER 3

METHODOLOGY

Researcher will use methodology as following.

1. Business model

This phrase, researchers will use tool to develop business model and business strategy

2. Marketing plan

This phrase, researcher will deep down detail from business strategy of marketing and sales.

3. Organization plan

This phrase, researcher will look back to organization to achieve marketing and sales assumption.

4. Financial plan

This phrase, researcher will find out valuation of company, initial investment, and sensitivity analysis based on business model assumption.

CHAPTER 4

BUSINESS MODEL

1. Business Model Canvas

Business Model Canvas is a template for developing new or documenting existing business models. It is a visual chart with elements describing a firm's or product's value proposition, infrastructure, customers, and finances initially proposed in 2005 by Alexander Osterwalder.

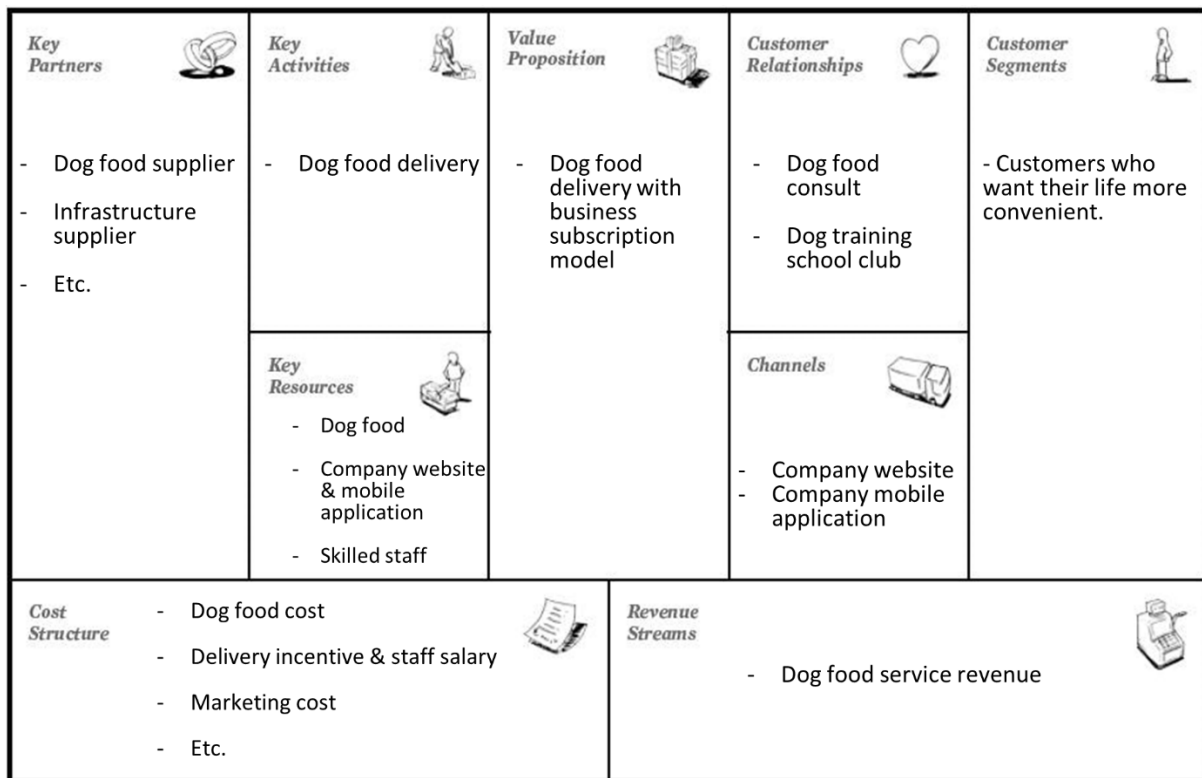


Figure 4-1: Dog Kingdom business model canvas

2. Industry Analysis

2.1. External Factor

Five Forces Analysis is a tool for analyzing competition of industry that Michael E. Porter of Harvard University publishes in Harvard Business Review in 1979.

Researcher will use five force analysis to analyze competition of this industry as following to find out level of competition in this industry.

Five force model	Rivalry pressure	Remark
1. Intensity of competition	High	- Both offline & online commerce has an intensive promotion and competition
2. Threat of new entrants	High	- It does not have a barrier of entry
3. Threat of substitutions	High	- Customer can buy dog food many channel both online and offline commerce (Big C, Lotus, 7-11, Lazada, Shopee, Etc.)
4. Power of supplier	Low	- Dog food suppliers will be happier because they have more channels to sell
5. Power of buyers	Low	- It does not have a group or influential buyers

Figure 4-2: Dog Kingdom Five Force Analysis

So, this industry is high rivalry industry, but it is still having customer pain point and customers still feel inconvenience.

2.2. Internal Factor

Researcher will use value chain analysis tool to help analysis. This tool is developed by Michael E. Porter of Harvard University in his 1985 best-seller, *Competitive Advantage: Creating and Sustaining Superior Performance*.

Value chain analysis is a process where a firm identifies its primary and support activities that add value to its final product and then analyze these activities to reduce costs or increase differentiation.

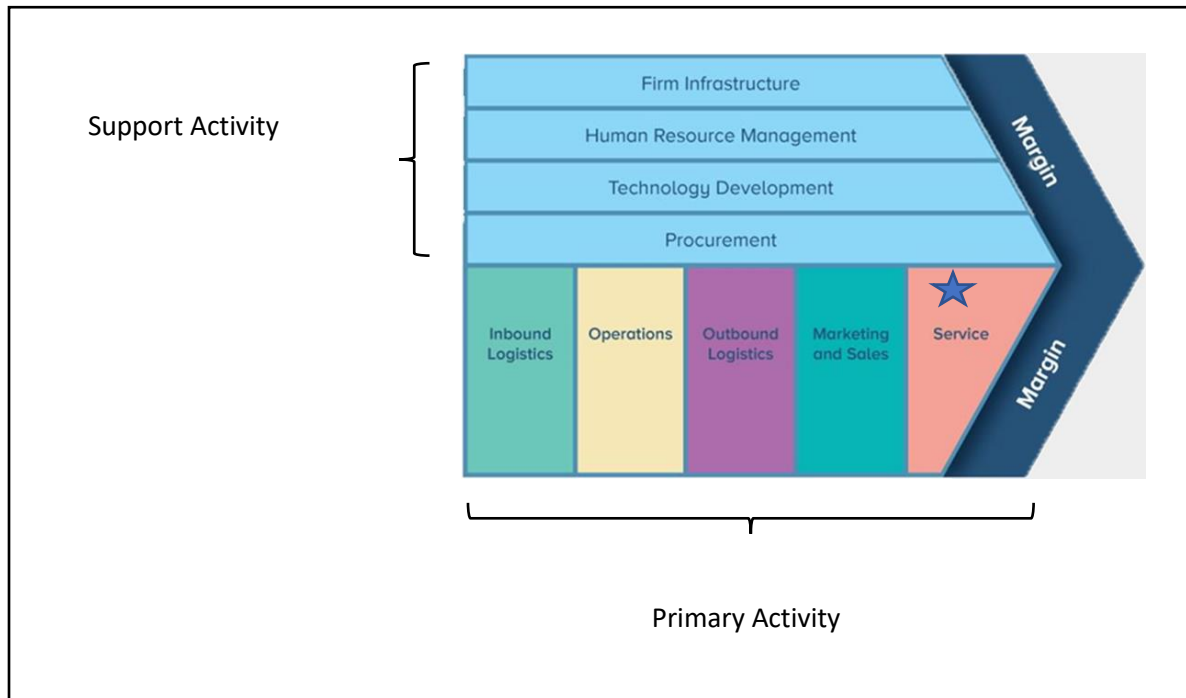


Figure 4-3: Dog Kingdom Value Chain Analysis

Researcher will focus service activity with differentiation strategy because researchers found that this activity can compete to other competitors.

Our differentiation will use as following.

1. Use keyword “Convenient” and “Automatic” and “The first dog food delivery innovation in Thailand and World” to communicate to customers.

Because this is a pain point from customers that originate this business.

2. Just 3 months service. Not satisfy, you can stop every time.

Because we use subscription business model. some customers do not want to fix their life and some customers want to try. So, company will use shortest month to subscript as much as possible to help customer decision.

3. Not only delivery like others, but we have dog food specialists to take care

Now related logistic provider, they just send products. But no one knows product a lot. So, we will provide skilled staff to consult to customers.

CHAPTER 5

MARKETING PLAN

1. Segmentation, Target, and Positioning

1.1. Segmentation

We categorized by dog food format based on Pet Food Manufacturer Association (PMFA), UK. They categorize dog food format for 3 types (dry food, wet food, and raw)

Our business will serve only dry dog food because this format is 90% from customers using based on Yallee (2014) literature review.

1. Dry food



2. Wet food



3. Raw



Figure 5-1: Dog food segmentation

1.2. Target

We will focus customer who has profile as following.

- **Demographic**

Unisex but focus on female (75%) male (25%)

Age = 18 – 55 year

Education: High school up

Occupation: SMEs owner, business owner, employee & officer

Personal income = 35,000 Baht/month up

- **Geographic**

Bangkok only (Home village price 3M+ in Bangkok)

- **Psychographic**

Dog owner who prefer convenient life

- **Behavior segmentation**

Buying for others using

1. Primary target → dog owner lives at home village in Bangkok



Figure 5-2: Primary target

Mam, she is 28 years-old who has 1 big dog (golden retriever), she is daughter of SMEs owner. She lives in Bangkok Thailand. She always buys things and dog food in e-commerce because she does not want to stick in a traffic jam, and she does not want to carry dog food from offline commerce to her home (it is heavy). She buys dog food many times because her golden retriever eat a lot and she does not want to stock dog food too much in her home. At her free time, she like to see social media like Facebook and Instagram. She like to see cute dog image from others. Some weekend, she goes to dog café to see cute dog and drink some coffee.

2. Secondary target → dog café owners in Bangkok



Figure 5-3: Secondary target

Note, he is 35 years-old who has dog café business. He has a lot of dog and a lot of employee also. He wants to make more profit and save their time by outsourcing some task of business. (Ex. Buy dog food)

1.3. Positioning

We will position based on 2 factors channel and sales. So, we are online commerce and specific sales

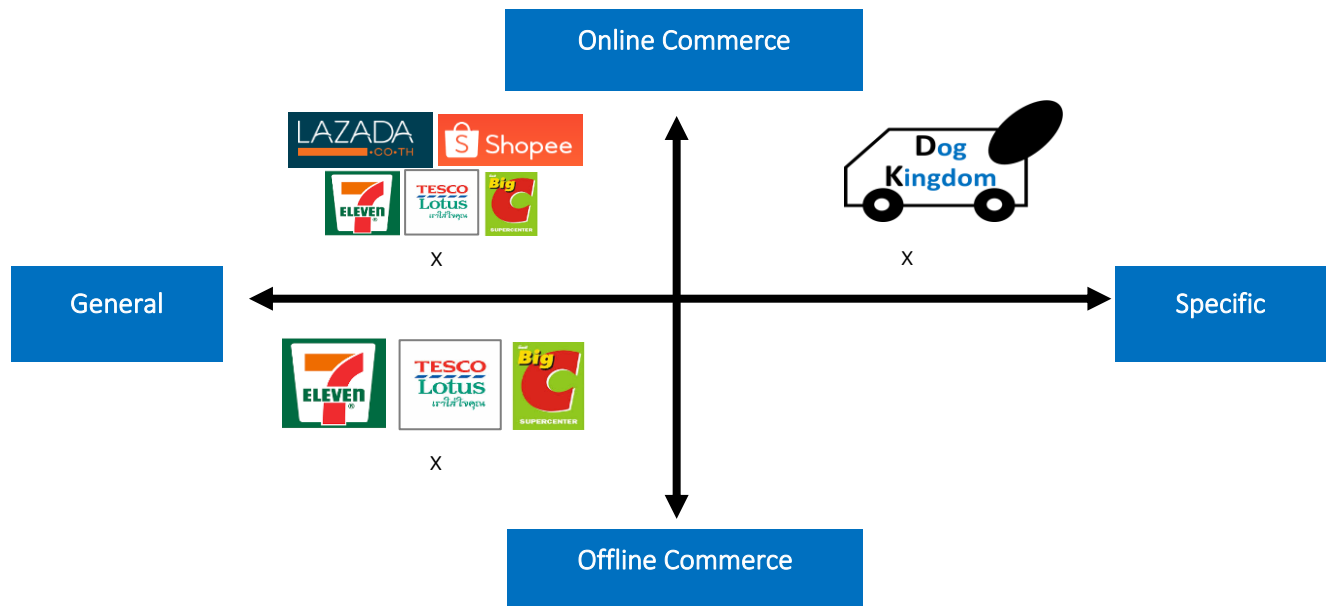


Figure 5-4: Dog Kingdom positioning

2. Marketing Mix

2.1. Product

Our product is “Dog food delivery”. We provide monthly dog food delivery that customer can choose dry dog food from Pedigree brand and Smart Heart brand. We use these two brands because 51% of survey they use these brands.

And another reason that customer who buy dog food is loyalty. Most of customers they do not change dog food brand. (Yalee 2014)



Figure 5-5: Dog kingdom product

As this is monthly delivery, So, product will categorize three group based on dog breed from Pedigree research in figure 5-7. Size S is suitable for small dog breed. Size M is suitable for medium dog breed. And size L is suitable for large dog breed.

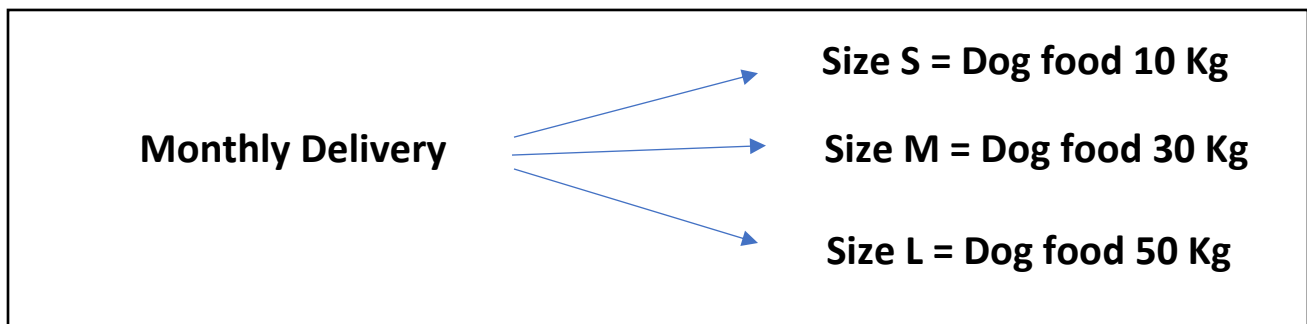


Figure 5-6: Product package

ปริมาณแนะนำในการให้อาหารสุนัข

ปริมาณในหน่วยกรัม / วัน

น้ำหนักตัวของสุนัข	พลังงานที่ต้องการต่อวัน (เมกาคอรี)	สัดส่วนการผสมอาหารเม็ดและอาหารเปียก	ปริมาณอาหารเม็ด	ปริมาณอาหารเปียก
▶ สายพันธุ์ตุ๊กตา				
4	269	175 + 40	345	80
5	318	205 + 50	410	100
▶ สายพันธุ์เล็ก				
6	364	235 + 70	470	110
7	409	265 + 60	525	125
8	452	290 + 70	580	140
9	494	320 + 75	635	150
10	534	345 + 80	690	165
▶ สายพันธุ์กลาง				
12	613	400 + 90	790	190
14	688	400 + 115	885	210
16	760	400 + 140	980	230
18	830	400 + 160	1070	255
20	898	400 + 180	1155	275
22	965	400 + 200	1240	295
24	1030	400 + 220	1325	315
▶ สายพันธุ์ใหญ่				
26	1094	600 + 190	1410	335
28	1156	600 + 210	1490	350
30	1218	600 + 230	1570	370
26	1278	600 + 250	1645	390
32	1338	600 + 265	1720	410
36	1396	600 + 285	1800	425
38	1454	600 + 300	1870	445
40	1511	800 + 270	1945	460

Figure 5-7: Dog food consumption

2.2. Place

We will sell our service in company website and company mobile application. Because customers can subscribe every time, every day, and every device.

2.3. Price

Our service, customers have to apply at least 3 months. We will delivery dog food 1 times per month for 3 months as average as date and package size as customers request.

And because customers have to pay dog food for 3 months in advance. So, we will give a discount to attract customers max to 382 baht.

	Size S	Size M	Size L
	10 kg	10 kg * 3 bag	10 kg * 5 bag
Company package	THB 2,000	THB 5,450	THB 8,900

	Size S	Size M	Size L
	10 kg	10 kg * 3 bag	10 kg * 5 bag
Company package	THB 2,000	THB 5,450	THB 8,900
Lowest price from online competitor	THB 2,190	THB 5,808	THB 9,282
Customer saving	THB 190	THB 358	THB 382

Table 5-1: Dog Kingdom package price

Shopee (Pedigree official)	Size S	Size M	Size L
	10 kg	10 kg * 3 bag	10 kg * 5 bag
Dog food price	THB 660	THB 1,980	THB 3,300
Delivery price	THB 110	THB 530	Cannot deliver
Delivery promotion	-THB 40	-THB 40	
Total	THB 730	THB 2,470	
Total 3 month	THB 2,190	THB 7,410	

Table 5-2: Shopee price at 8 Mar'20

Makro click	Size S	Size M	Size L
	10 kg	10 kg * 3 bag	10 kg * 5 bag
Dog food price	THB 579	THB 1,737	THB 2,895
Delivery price	Cannot deliver	THB 199	THB 199
Delivery promotion		THB 0	THB 0
Total		THB 1,936	THB 3,094
Total 3 month		THB 5,808	THB 9,282

Table 5-3: Makro price at 8 Mar'20

For cost of goods sold, cost of goods sold is an important part for business valuation. But it is difficult to find real cost of goods sold if you are not seller now. So, we will expect cost of goods sold based on merchandizing company that shares a financial report to public.

We will use % cost of goods sold as a % of revenue in Siam Makro public company limited. (Makro brand) Because they are a wholesaler and their service look like us the most. So, we will use cost of goods sold = 89% of revenue or cost of goods sold = 89% from dog food price of Makro.

Income statement (Makro or Makro click)		2016	2017	2018	Average
Revenue	(A)	M THB 172,093	M THB 185,804	M THB 191,997	M THB 183,298
Cost of goods sold (COGS)	(B)	M THB 153,722	M THB 164,352	M THB 169,639	M THB 162,571
Gross profit	(A) - (B)	M THB 18,370	M THB 21,452	M THB 22,358	M THB 20,727
COGS as a % of revenue	(B) / (A)	89%	88%	88%	89%

Source : www.jitta.com,Siam Makro, 20 Dec'19

% COGS

89%

	(A)	(B) = 89% * (A)	(C)	(D) = (C) - (B)	(E) = (D) / (C)
Dog food	Makro click dog food price	COGS	Dog Kingdom Package / 3	Marginal profit	% Marginal profit
10 kg	THB 579	THB 516	THB 667	THB 151	23%
30 kg	THB 1,737	THB 1,546	THB 1,817	THB 271	15%
50 kg	THB 2,895	THB 2,577	THB 2,967	THB 390	13%

Table 5-4: Marginal profit

2.4. Communication

Although company has only online channel. But company will promote our service both online and offline channel. The details are shown as following.

2.4.1. PR Board

Purpose:	Increase awareness & decision in offline channel
Mechanic:	Set up information board in potential area of all communities in Bangkok (10% * 2,070 = 210 boards)
Budget:	840,000 Baht (1 board =4,000 Baht)
Expected Visitor:	N/A visitors
Expected customers:	2,100 customers
Expected success rate:	N/A

2.4.2. PR at pet expo

Purpose:	Increase awareness & decision in offline channel
Mechanic:	PR at pet expo
Budget:	880,000 baht per year
Expected Visitor:	114,000 visitors (Source: www.petexpothailand.net , 2018)
Expected customers:	4,400 customers
Expected success rate:	4%

2.4.3. Google Advertising

Purpose: Increase awareness & decision & retention in online channel

Mechanic: Google advertising

Budget: $19,578 * 12 = 234,936$ Baht per year

Expected Visitor: 62,940 visitors

(Source: ads.google.com, radius from pinpoint = 20 km, keyword = อาหารสุนัข, ดูแลสุนัข, คาเฟ่สุนัข, ซื้ออาหารสุนัข)

Expected customers: 900 customers

Expected success rate: 1%

2.4.4. Facebook Advertising

Purpose: Increase awareness & decision & retention in online channel

Mechanic: Facebook advertising

Budget: $600 * 30 * 12 = 216,000$ Baht per year

Expected Visitor: 70,200 visitors (Location = Bangkok, Gender = M & F, Interest = dog or pet food)

Expected customers: 920 customers

Expected success rate: 1%

2.4.5. Content in website & YouTube

Purpose: Awareness

Mechanic: Landing page after our Google and Facebook advertising

Budget: $10,000 * 12 = 120,000$ Baht

Expected visitor: 62,940 visitors from Google ad and 70,200 visitors from Facebook ad

Expected customers: -

Expected success rate: - %

2.4.6. Lucky draw support 3,000 THB for dog training school

Purpose:	To use customer relationship management (CRM) strategy
Mechanic:	Support 30 customers to reduce 3,000 Baht dog training course fee
Budget:	90,000 Baht
Expected visitor:	8,600 visitors
Expected customers:	30 customers
Expected success rate:	0.3%

2.4.7. Lucky draw functional dog food 2,000 Baht

Purpose:	<ol style="list-style-type: none"> 1. To increase existing customer decision 2. To develop our dog food product and test market
Mechanic:	Lucky draw for 250 customers to get our functional dog food
Budget:	500,000 Baht
Expected Visitor:	8,600 visitors per year
Expected customers:	250 customers per year
Expected success rate:	3%

So, researchers will summarize communication plan and period as table 5-5 and 5-6.

Plan	Customer stage	Promote Channel	(A)	(B)	(B)/(A)	(C)	(C)/(B)
			Expected visitor	Expected customers	Success rate	Expenses	Cust. acquisition cost
1 PR board	Awareness & decision	Offline	N/A	2,100 24%	-	THB 840,000 29%	THB 400
2 PR at pet expo	Awareness & decision	Offline	114,000	4,400 51%	4%	THB 880,000 31%	THB 200
3 Google advertising	Decision & retention	Online	62,940	900 10%	1%	THB 234,936 8%	THB 261
4 Facebook advertising	Decision & retention	Online	70,200	920 11%	1%	THB 216,000 7%	THB 235
5 Content in website & youtube	Awareness	Online	133,140	0 0%	-	THB 120,000 4%	-
6 Lucky draw support 3,000 THB for dog training school	Retention	Online	8,600	30 0%	0%	THB 90,000 3%	THB 3,000
7 Lucky draw for dog food supplements 2,000 THB	Retention	Online	8,600	250 3%	3%	THB 500,000 17%	THB 2,000
Total				8,600 100%		THB 2,880,936 100%	THB 335

Table 5-5: Communication plan

Communication timeline		Year											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	PR board												
2	PR at pet expo												
3	Google advertising												
4	Facebook advertising												
5	Content in website & youtube												
6	Lucky draw support 3,000 THB for dog training school												
7	Lucky draw for dog food supplements 2,000 THB												

Table 5-6: Communication timeline

And for the next year of communication expenses, researchers will assume 10% increase per year. Because this industry is high rivalry.

Communication expenses	Increase per year	Year					
		0	1	2	3	4	5
1 PR board	10%	THB 0	THB 840,000	THB 924,000	THB 1,016,400	THB 1,118,040	THB 1,229,844
2 PR at pet expo	10%	THB 0	THB 880,000	THB 968,000	THB 1,064,800	THB 1,171,280	THB 1,288,408
3 Google advertising	10%	THB 0	THB 234,936	THB 258,430	THB 284,273	THB 312,700	THB 343,970
4 Facebook advertising	10%	THB 0	THB 216,000	THB 237,600	THB 261,360	THB 287,496	THB 316,246
5 Content in website & youtube	10%	THB 0	THB 120,000	THB 132,000	THB 145,200	THB 159,720	THB 175,692
6 Lucky draw support 3,000 THB for dog training school	10%	THB 0	THB 90,000	THB 99,000	THB 108,900	THB 119,790	THB 131,769
7 Lucky draw for dog food supplements 2,000 THB	10%	THB 0	THB 500,000	THB 550,000	THB 605,000	THB 665,500	THB 732,050
Total	10%	THB 0	THB 2,880,936	THB 3,169,030	THB 3,485,933	THB 3,834,526	THB 4,217,978

Table 5-7: Communication expenses

3. Service flow chart

If customers want to be our customer, customers have to follow these 7 steps as following.

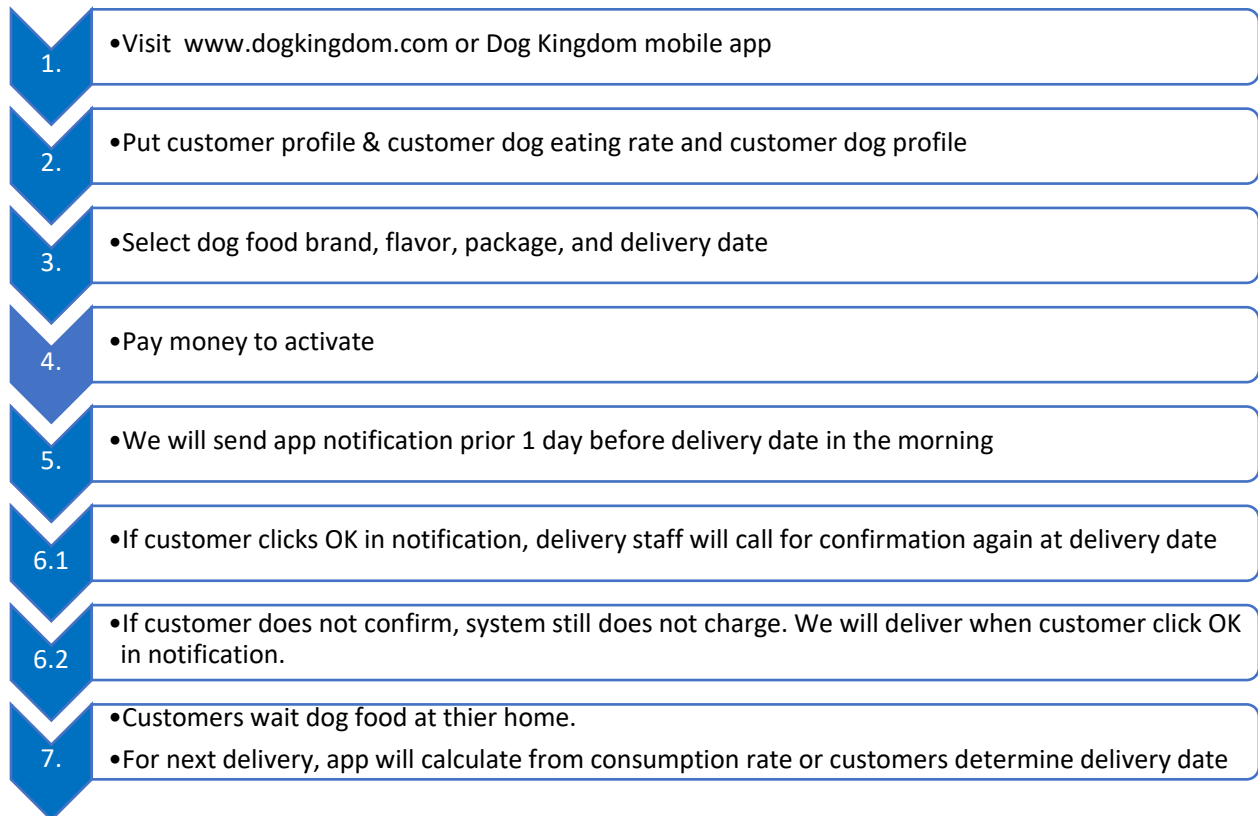


Figure 5-8: Service flow chart

4. Customer growth

We expect to get customer = 8,600 customers per month in steady state. (first of year 2) For next year, we assume, we can keep customer at this level and cannot growth because this industry is high rivalry (0 % increase per year)

Customer per month	Increase per year	Year					
		0	1	2	3	4	5
Total	0%	0	8,600	8,600	8,600	8,600	8,600

Table 5-8: Customer per month

Company has to delivery 12 trip per year per customers. So, company will gain profit from one customer twelve times. So, this is a quantity of delivery of company each year.

Delivery	Year					
	0	1	2	3	4	5
Total	0	49,080	103,200	103,200	103,200	103,200

Table 5-9: quantity of delivery each year

From Yalée (2014) literature review, customers who take care small breed of dog = 47%, dog medium breed of dog = 39% and large breed of dog = 14%. From this portion we assume that customers will select dog food package as the same they take care (small breed = company package size S, medium breed = company package size M, and large breed = company package size L) So, delivery each year will be shown as following.

Delivery			Year					
			0	1	2	3	4	5
1	Having dog size S	47%	0	23,067	48,504	48,504	48,504	48,504
2	Having dog size M	39%	0	19,142	40,248	40,248	40,248	40,248
3	Having dog size L	14%	0	6,871	14,448	14,448	14,448	14,448
Total			0	49,080	103,200	103,200	103,200	103,200

Table 5-10: quantity of delivery each year by package size

CHAPTER 6

ORGANIZATION PLAN

1. Staff

We will have 50 staffs that will show in table 6-5. Each staff will live in each head office and warehouse that is shown in figure 6-1.

Office	Type	Staff			
Near Kasetsart U. (HO)	Head office	General manager	Consultant-1	Consultant-2	Accountant-1
Ram Inthra - Vacharapol road	Warehouse	Senior planning staff-1	Planning staff-1		
Ratchaphruek	Warehouse	Senior planning staff-2	Planning staff-2		
Rangsit	Warehouse	Senior planning staff-3	Planning staff-3		
Bangna	Warehouse	Senior planning staff-4	Planning staff-4		
Minburi-Ladkrabang	Warehouse	Senior planning staff-5	Planning staff-5	Accountant-2	

Figure 6-1: Position and office chart

All staffs will work 25 working day a month or 300 working day a year. In year 1, staff will get benefit depending on their position. They will have position and job description that is shown in table 6-1.

Position	Job description
General manager	- To manage overall of business
Consultant staff	- To consult customers & marketing
Accountant	- To manage finance & purchase
Senior planning staff	- To plan & manage delivery & control stock
Planning staff	- To plan & manage delivery
Delivery staff	-To delivery dog food to customers

Table 6-1: Staff job description

Position	Type staff	Benefit	Year 1
			Monthly
General manager	Permanent	Basic salary & Bonus 1 month	THB 60,000
Consultant staff			THB 30,000
Accountant			THB 25,000
Senior planning staff			THB 25,000
Planning staff			THB 20,000
Delivery staff	Contract	Basic & bonus 1 month	THB 6,500
		Delivery incentive	THB 15,498

Table 6-2: Staff benefit

Delivery staff assumption

- Delivery staff must have their own motorcycle.
- Assume 1 delivery staff can serve 10 customers per day or 250 customers per month.
- Assume delivery staff can serve max 6 bags or 60 kg per loading
- Assume time from customer to customer = 30 minutes
- Assume time from customer to company = 60 minutes

Delivery staff schedule		
Start	Finish	Activity
9.00	9.00	Staff starts working
9.00	09.30	Reload
09.30	10.00	Customer (L)
10.00	10.30	Customer (S)
10.30	11.30	Come back company
11.30	12:00	Reload & lunch
12:00	12:30	Customer (M)
12:30	13:00	Customer (M)
13:00	14:00	Come back company
14:00	14:30	Reload
14:30	15:00	Customer (M)
15:00	15:30	Customer (S)
15:30	16:00	Customer (S)
16:00	17:00	Come back company
17:00	17:30	Reload
17:30	18:00	Customer (M)
18:00	18:30	Customer (S)
18:30	19:00	Customer (S)
19:00	19:00	Staff finishes work

Table 6-3: Delivery staff time schedule

Simulation Delivery staff expenses	1). Delivery Incentive			2). Basic & Insurance	Grand total
	Estimated delivery per month per staff	Incentive	Total		
Size S	47%	118	THB 50	THB 5,900	
Size M	39%	98	THB 75	THB 7,350	
Size L	14%	34	THB 100	THB 3,400	
Total	100%	250		THB 16,650	THB 6,500
					THB 23,150

Table 6-4: Expected delivery staff monthly benefit

For other staffs, we will hire staff from famous university especially consultant staff. We will hire staff from faculty of veterinary technology because they are specialist for take care pets.



Figure 6-2: Other staff assumption

Unit: Headcount

Position	Capacity		Year					
	Day	Month	0	1	2	3	4	5
General manager	-	-	0	1	1	1	1	1
Consultant staff	-	-	0	2	2	2	2	2
Accountant staff	-	-	0	2	2	2	2	2
Senior planning staff	-	-	0	5	5	5	5	5
Planning staff	-	-	0	5	5	5	5	5
Delivery staff	10	250	0	35	35	35	35	35
Total			0	50	50	50	50	50

Table 6-5: Staff headcount

Staff expenses	Increase per year *	Year					
		0	1	2	3	4	5
General manager	5%	THB 0	THB 660,000	THB 813,000	THB 853,650	THB 896,333	THB 941,149
Consultant staff	5%	THB 0	THB 660,000	THB 813,000	THB 853,650	THB 896,333	THB 941,149
Accountant	5%	THB 0	THB 550,000	THB 677,500	THB 711,375	THB 746,944	THB 784,291
Senior planning staff	5%	THB 0	THB 1,375,000	THB 1,693,750	THB 1,778,438	THB 1,867,359	THB 1,960,727
Planning staff	5%	THB 0	THB 1,100,000	THB 1,355,000	THB 1,422,750	THB 1,493,888	THB 1,568,582
Delivery staff	5%	THB 0	THB 1,085,500	THB 3,082,625	THB 3,236,756	THB 3,398,594	THB 3,568,524
Total		THB 0	THB 5,430,500	THB 8,434,875	THB 8,856,619	THB 9,299,450	THB 9,764,422

* Increase per year based on studying from ManpowerGroup Thailand, Jan 2020

Table 6-6: Staff expenses

2. Head office & warehouse

As we use keyword “อาหารสุนัข” in google trend, we found that most customers search from greater Bangkok and our primary target customer is dog owners live at home village in Bangkok. And to achieve delivery staff can serve 30 minutes per customers. We decide to have 1 head office & 5 warehouses around Bangkok.

Office rental expenses			Increase per year *	Year						
				0	1	2	3	4	5	
1	Head office	Near Kasetsart U. 20 m2	5%	THB 24,000	THB 144,000	THB 151,200	THB 158,760	THB 166,698	THB 175,033	
2	Warehouse	Ram Inthra - Vacharapol road 50 m2	5%	THB 30,000	THB 180,000	THB 189,000	THB 198,450	THB 208,373	THB 218,791	
3	Warehouse	Ratchaphruek 50 m2	5%	THB 24,000	THB 144,000	THB 151,200	THB 158,760	THB 166,698	THB 175,033	
4	Warehouse	Rangsit 50 m2	5%	THB 30,000	THB 180,000	THB 189,000	THB 198,450	THB 208,373	THB 218,791	
5	Warehouse	Bangna 50 m2	5%	THB 30,000	THB 180,000	THB 189,000	THB 198,450	THB 208,373	THB 218,791	
6	Warehouse	Minburi-Ladkrabang 50 m2	5%	THB 30,000	THB 180,000	THB 189,000	THB 198,450	THB 208,373	THB 218,791	
7	Decoration or operating cost (25% from total rental)				THB 42,000	THB 252,000	THB 264,600	THB 277,836	THB 291,720	THB 306,312
	Total				THB 210,000	THB 1,260,000	THB 1,323,000	THB 1,389,156	THB 1,458,606	THB 1,531,542

* Increase per year based on studying from Nexus Real Estate Advisory, December 2019

Table 6-7: Head office & warehouse expenses

Where operating cost (telephone, water & electricity cost, and so on) will be estimated from 25% from total rental expenses.

3. Company website & mobile application

We will use outsourcing strategy for website & mobile app development because we are not skillful in this field.

This topic, it is difficult to find expenses because it depends on supplier, but we will assume expenses based on requirement.

Assumption

1. 200,000 Baht per requirement
2. Upgrade & maintenance cost = 10% of development expenses and will increase 5% per year
3. Staff computer depreciation is linear

Website & mobile app requirement	
1	Customers can input their & dog profile
2	System shows dog food brands, flavors, and package
3	Customers can apply, appoint delivery date, and have notification
4	Customers can feedback delivery quality and delivery staff can feedback customers
5	System can summarize data & statistic

Figure 6-3: Company website & mobile app requirement

IT expenses	Increase per year	Year					
		0	1	2	3	4	5
1 Staff computer		THB 450,000	THB 0	THB 0	THB 0	THB 0	THB 0
Update & maintenance (10%)	5%	THB 0	THB 45,000	THB 47,250	THB 49,613	THB 52,093	THB 54,698
2 Develop web & mobile app		THB 1,000,000	THB 0	THB 0	THB 0	THB 0	THB 0
Update & maintenance (10%)	5%	THB 0	THB 100,000	THB 105,000	THB 110,250	THB 115,763	THB 121,551
Total		THB 1,450,000	THB 145,000	THB 152,250	THB 159,863	THB 167,856	THB 176,248

Depreciation	Year					
	0	1	2	3	4	5
Staff computer	THB 0	THB 90,000	THB 90,000	THB 90,000	THB 90,000	THB 90,000
Total	THB 0	THB 90,000	THB 90,000	THB 90,000	THB 90,000	THB 90,000

Table 6-8: Website & mobile application expenses and depreciation

CHAPTER 7

FINANCIAL PLAN

1. Initial investment

Company need initial investment = 5.5 million baht that company will invest as the following.

Initial investment	
Staff computer	THB 450,000
Develop web & mobile app	THB 1,000,000
Advance office rental 2 month	THB 210,000
Decoration office	THB 42,000
Other cash	THB 633,832
Cash	THB 3,164,168
Total	THB 5,500,000

Table 7-1: Initial investment

We will use 5 years Kasikorn bank loan for SME = 2,200,000 Baht (debt 40%) because we have our equity only = 3,300,000 Baht (60%).

Capital structure	
Debt	Equity
40%	60%
฿ 2,200,000	฿ 3,300,000

Table 7-2: Capital structure

The screenshot shows the Kasikornbank SME loan page. The main heading is "รูปแบบไม่มีหลักทรัพย์ค้ำประกัน" (Loan type: No collateral). The page is divided into two columns of information:

ประเภทวงเงิน	ระยะเวลาผ่อนชำระ
วงเงินกู้ระยะยาว (Loan)	สูงสุด 5 ปี
วงเงินสินเชื่อ	อัตราดอกเบี้ย
สูงสุด 5 ล้านบาท	เริ่มต้น MRR+5% ต่อปี
หลักประกัน	อัตราค่าธรรมเนียมค้ำประกัน บสย.
ไม่มีหลักทรัพย์ค้ำประกัน บุคคลค้ำประกัน บสย. ค้ำประกัน	ปีที่ 1 และ 2 • ฟรี ค่าธรรมเนียม ปีที่ 3 และ 4 • 1% ต่อปี ปีถัดไป • 1.5% ต่อปี

Figure 7-1: Interest rate from Kasikorn bank (28 Jun'20)

As we will use 5 years SME loan from Kasikorn bank that charges interest rate = $MRR^* + 5\%$ per year = $5.97\% + 5\% = 10.97\%$. So, minimum payment = 47,801 Baht per month. We plan to clear our debt when our free cash flow to firm covers all debt (2 years 6 months)

Loan 5 year reimbursement plan	Year					
	0	1	2	3	4	5
Beginning principal	THB 2,200,000	THB 2,200,000	THB 1,850,365	THB 0	THB 0	THB 0
Interest (MRR+5%) 10.97%		THB 223,970	THB 96,365	THB 0	THB 0	THB 0
Company payback		THB 573,605	THB 1,946,730	THB 0	THB 0	THB 0
Ending principal	THB 2,200,000	THB 1,850,365	THB 0	THB 0	THB 0	THB 0

Table 7-3: Bank payback plan

And cost of capital with CAPM Model will be assumed as following.

Cost of capital			
Capital structure			
Debt	40%	Equity	60%
Cost of debt (Kd)	10.97%	Risk free rate (Rf)	1.27%
Tax (T)	20.00%	Market rate (Rm)	16.87%
Kd * (1-T)	8.78%	Risk premium (Rm-Rf)	15.60%
		Beta	1.72
		Cost of equity (Ke)	26.83%
		= Risk Premium * Beta	
Weighted average cost of capital (WACC)			19.61%
= (Debt * (Kd (1-T)) + (Equity * Cost of equity)			

==> Thailand government bond yield (10 year), Thai BMA as of 28 Jun'20
 ==> average rate of return SET 2009 - 2018, SET
 ==> 2x Kerry Logistics Network Limited (0636.HK), Yahoo finance as of 28 Jun'20

Figure 7-2: Cost of capital

2. Working capital

Company will have an assumption for working capital as following.

1. Company will collect money from customers 3 months advance.

Days sales outstanding: DSO = -90 days or account receivable = -25% of revenue

2. Company will have stock policy for 3 day

Days inventory outstanding: DIO = 3 days or inventory = 1% of cost of goods sold

3. Assume supplier will give 1-month credit term.

Days account payable outstanding: DPO = 30 days or account payable = 8% of cost of goods sold

Assumption

Days sales outstanding: DSO	-90	Day	Account receivable =>	-25%	of revenue
Days inventory outstanding: DIO	3	Day	Inventory =>	1%	of cogs
Days account payable outstanding: DPO	30	Day	Account payable =>	8%	of cogs
Cash conversion cycle: CCC = DSO + DIO - DPO	-117	Day			

Working capital			Year					
			0	1	2	3	4	5
Account receivable	A = -25% of revenue	S	THB 0	(THB 3,846,409)	(THB 8,088,042)	(THB 8,088,042)	(THB 8,088,042)	(THB 8,088,042)
		M	THB 0	(THB 8,695,243)	(THB 18,282,654)	(THB 18,282,654)	(THB 18,282,654)	(THB 18,282,654)
		L	THB 0	(THB 5,096,561)	(THB 10,716,804)	(THB 10,716,804)	(THB 10,716,804)	(THB 10,716,804)
		TTL	THB 0	(THB 17,638,213)	(THB 37,087,500)	(THB 37,087,500)	(THB 37,087,500)	(THB 37,087,500)
Inventory	B = 3% of cost of goods sold	S	THB 0	THB 99,188	THB 208,567	THB 208,567	THB 208,567	THB 208,567
		M	THB 0	THB 246,613	THB 518,528	THB 518,528	THB 518,528	THB 518,528
		L	THB 0	THB 147,555	THB 310,271	THB 310,271	THB 310,271	THB 310,271
		TTL	THB 0	THB 493,356	THB 1,037,366	THB 1,037,366	THB 1,037,366	THB 1,037,366
Account payable	C = 8% of cost of goods sold	S	THB 0	THB 991,881	THB 2,085,672	THB 2,085,672	THB 2,085,672	THB 2,085,672
		M	THB 0	THB 2,466,128	THB 5,185,284	THB 5,185,284	THB 5,185,284	THB 5,185,284
		L	THB 0	THB 1,475,548	THB 3,102,708	THB 3,102,708	THB 3,102,708	THB 3,102,708
		TTL	THB 0	THB 4,933,556	THB 10,373,664	THB 10,373,664	THB 10,373,664	THB 10,373,664
Net working capital	D = A + B - C	S	THB 0	(THB 4,739,102)	(THB 9,965,147)	(THB 9,965,147)	(THB 9,965,147)	(THB 9,965,147)
		M	THB 0	(THB 10,914,758)	(THB 22,949,410)	(THB 22,949,410)	(THB 22,949,410)	(THB 22,949,410)
		L	THB 0	(THB 6,424,554)	(THB 13,509,241)	(THB 13,509,241)	(THB 13,509,241)	(THB 13,509,241)
		TTL	THB 0	(THB 22,078,414)	(THB 46,423,798)	(THB 46,423,798)	(THB 46,423,798)	(THB 46,423,798)
Changing in net working capital		S	THB 0	(THB 4,739,102)	(THB 5,226,045)	THB 0	THB 0	THB 0
		M	THB 0	(THB 10,914,758)	(THB 12,034,652)	THB 0	THB 0	THB 0
		L	THB 0	(THB 6,424,554)	(THB 7,084,687)	THB 0	THB 0	THB 0
		TTL	THB 0	(THB 22,078,414)	(THB 24,345,384)	THB 0	THB 0	THB 0

Table 7-4: Working capital

3. Financial Plan

So, our business will have income statement that is shown in table 7-6.

Income statement	Item	Year					
		0	1	2	3	4	5
Revenue	A	THB 0	THB 70,552,853	THB 148,350,000	THB 148,350,000	THB 148,350,000	THB 148,350,000
	as a % of revenue		100%	100%	100%	100%	100%
Cost of goods sold	B	THB 0	THB 59,202,675	THB 124,483,968	THB 124,483,968	THB 124,483,968	THB 124,483,968
	as a % of revenue		84%	84%	84%	84%	84%
Marginal profit (MP)	C = A - B	THB 0	THB 11,350,178	THB 23,866,032	THB 23,866,032	THB 23,866,032	THB 23,866,032
	as a % of revenue		16%	16%	16%	16%	16%
Communication expenses	D	THB 0	THB 2,880,936	THB 3,169,030	THB 3,485,933	THB 3,834,526	THB 4,217,978
	as a % of revenue		4%	2%	2%	3%	3%
Staff expenses	E	THB 0	THB 9,951,600	THB 15,730,155	THB 16,516,663	THB 17,342,496	THB 18,209,621
	as a % of revenue		14%	11%	11%	12%	12%
Office expenses	F	THB 168,000	THB 1,260,000	THB 1,323,000	THB 1,389,156	THB 1,458,606	THB 1,531,542
	as a % of revenue		2%	1%	1%	1%	1%
IT expenses	G	THB 1,450,000	THB 145,000	THB 152,250	THB 159,863	THB 167,856	THB 176,248
	as a % of revenue		0%	0%	0%	0%	0%
Depreciation and amortization	H	THB 0	THB 90,000	THB 90,000	THB 90,000	THB 90,000	THB 90,000
	as a % of revenue		0%	0%	0%	0%	0%
Earning before interest and taxes (EBIT)	I = C - (D+E+F+G+H)	(THB 1,618,000)	(THB 2,977,358)	THB 3,401,597	THB 2,224,418	THB 972,549	(THB 359,358)
	as a % of revenue		-4%	2%	1%	1%	0%
Interest	J	THB 0	THB 223,970	THB 96,365	THB 0	THB 0	THB 0
	as a % of revenue		0%	0%	0%	0%	0%
Earning before tax (EBT)	K = I - J	(THB 1,618,000)	(THB 3,201,328)	THB 3,305,232	THB 2,224,418	THB 972,549	(THB 359,358)
	as a % of revenue		-5%	2%	1%	1%	0%
Tax	L	THB 0	THB 91,186	THB 724,742	THB 534,247	THB 362,855	THB 203,779
		20%	20%	20%	20%	20%	20%
Net income	M = K - L	(THB 1,618,000)	(THB 3,292,514)	THB 2,580,490	THB 1,690,171	THB 609,694	(THB 563,137)
	as a % of revenue		-5%	2%	1%	0%	0%
Net income (Accum)		(THB 1,618,000)	(THB 4,910,514)	(THB 2,330,024)	(THB 639,853)	(THB 30,159)	(THB 593,296)

Table 7-5: Income statement

So, our business will have free cash flow to firm that is shown in table 7-7.

Free cash flow to firm	Item	From	Year					
			0	1	2	3	4	5
Net Income	A	Income statement	(THB 1,618,000)	(THB 3,292,514)	THB 2,580,490	THB 1,690,171	THB 609,694	(THB 563,137)
Interest expenses	B		THB 0	THB 223,970	THB 96,365	THB 0	THB 0	THB 0
Tax shield on interest expenses	C	Interest expense * Tax rate	THB 0	THB 10,617	THB 19,273	THB 0	THB 0	THB 0
Chaging in net working capital	D	Working capital table	THB 0	(THB 3,868,650)	THB 0	THB 0	THB 0	THB 0
Capital expenditures (CAPEX)	E	Capital expenditures table	THB 0	THB 0	THB 0	THB 0	THB 0	THB 0
Depreciation and amortization	F	Income statement	THB 0	THB 90,000	THB 90,000	THB 90,000	THB 90,000	THB 90,000
Free cash flow to firm (FCFF)	G = A+B-C-D-E+F		(THB 1,618,000)	THB 879,488	THB 2,747,582	THB 1,780,171	THB 699,694	(THB 473,137)
FCFF accum			(THB 1,618,000)	(THB 738,512)	THB 2,009,071	THB 3,789,242	THB 4,488,936	THB 4,015,799

Table 7-6: Free cash flow table

As cash today is not worth the same amount as cash tomorrow. Our business will have present value of free cash flow that is shown in table 7-8.

Present value of free cash flow to firm	Item	From	Year					
			0	1	2	3	4	5
Free cash flow to firm (FCFF)	A	Free cash flow to firm table	(THB 1,618,000)	THB 879,488	THB 2,747,582	THB 1,780,171	THB 699,694	(THB 473,137)
Present value factor	B = A / C		1.00	1.47	1.31	1.56	1.76	3.08
Present value of free cash flow to firm	C		(THB 1,618,000)	THB 596,706	THB 2,095,222	THB 1,138,143	THB 397,983	(THB 153,812)
Present value of free cash flow to firm (Accum)			(THB 1,618,000)	(THB 1,021,294)	THB 1,073,928	THB 2,212,071	THB 2,610,054	THB 2,456,242

Table 7-7: Present value of free cash flow

So, our business will have project KPI that is shown table 7-9. This business is OK compared with our criteria.

Project KPI		Criteria	
Discounted payback period (Year)	1.49	OK	Less than 3 years is "OK"
Net present value	THB 2,456,242	OK	Greater than 0 Baht is "OK"
Modified internal rate of return	32.68%	OK	Greater than MARR (1.5 * 16.87 %) is "OK"

Table 7-8: Project KPI

For sensitivity, we will use 2 factors. Cost of goods sold and customer growth each year that are shown.

Base case	
Customer growth	0%
%COGS	89%

Discounted payback period (Year)		Customer growth each year				
		-2%	-1%	0%	1%	2%
Cost of goods sold	87%	0.99	0.99	0.99	0.99	0.99
	88%	1.18	1.18	1.17	1.16	1.16
	89%	1.54	1.52	1.49	1.46	1.44
	90%	#REF!	#REF!	#REF!	2.39	2.19
	91%	#REF!	#REF!	#REF!	#REF!	#REF!

Net present value (Baht)		Customer growth each year				
		-2%	-1%	0%	1%	2%
Cost of goods sold	87%	7,265,439	7,975,126	8,728,458	9,489,354	10,236,662
	88%	4,247,846	4,909,600	5,609,789	6,324,228	7,021,986
	89%	1,188,362	1,803,324	2,456,242	3,120,735	3,767,154
	90%	(2,025,552)	(1,458,493)	(851,311)	(232,909)	366,766
	91%	(5,175,975)	(4,645,777)	(4,071,347)	(3,487,080)	(2,933,681)

Modified internal rate of return (%)		Customer growth each year				
		-2%	-1%	0%	1%	2%
Cost of goods sold	87%	55%	56%	58%	60%	62%
	88%	43%	46%	48%	50%	52%
	89%	25%	29%	33%	36%	39%
	90%	-3%	2%	7%	12%	16%
	91%	-38%	-33%	-27%	-22%	-18%

Remark :

Best case

Base case

Worst case

Table 7-9: Sensitivity analysis

4. Project summary

As some dog owners buy dog food not convenience. So, we propose to buy dog food more convenience by adding subscription business model and online commerce and delivery. Most assumption based on Yalee (2014) and Cerbo (2017) studied. So, some points need to study again (ex. Dog food buying channel, internet = 2%).

Summary of our assumption

1. Service price does not increase, and cost of goods sold = 89% from dog food price of Makro.
2. We have customer per month in steady state = 8,600 customers per month (year 2 onward) and growth of customers = 0% because this industry in high rivalry.
3. Communication expense increases 10% per year.
4. We will have 50 staffs. Growth of staff expense = 5% per year
5. We will rent 1 head office and 5 warehouses in Bangkok to distribute. Growth of rental expenses = 5% per year.
6. We will invest in IT 1.45 million baht and will have update & maintenance cost = 10% from initial investment. Growth of update & maintenance cost = 5%.
7. Our day sales outstanding = -90 days (Customers have to pay 3 months advance for our incentive)
8. Our day inventory outstanding = 3 days (We design to prepare operation for 3 days advance)
9. Our day account payable outstanding = 30 days (We expect supplier will be happier that they have more channel to sell)
10. Our cost of capital is 19.61%.

So, this business, investor has to invest for initial investment at 5.5 million Baht. (staff computer, Web & mobile app developing, advance office rental for 2 months, office decoration, cash and other cash). We can achieve all our KPI. Discounted payback period = 1.49 years. Net present value = 2,456,242 Baht. Modified internal rate of return = 32.68%.

For income statement point of view, our net income will negative in year 0 and 1, but will positive in year 2,3,4 and will negative again in year 5. Net income (accumulative) is negative all 5 years. And it will be worst at year 1 month 8 which is loss 5,060,352 Baht.

For free cash flow to firm point of view, our free cash flow to firm is negative at year 0 but positive since year 1 to year 4 and will negative again in year 5. But for free cash flow to firm (accumulative), our business is positive since year 2 onward. Our free cash flow (accumulative) is worst at year 1 month 4 as we will shortage cash = 3,164,168 Baht that we have to plan to invest in initial investment.

And you will see our free cash flow (accumulative) trend is decreasing. Because we assume all expenses will increase 5 – 10% but we do not expect our customer growth and do not expect to increase service price.

We propose to not sell only dog food in this business model but other things for dog like functional dog food, dog food snack, and dog accessories should be included. This business model cost of goods sold is more sensitive than customer growth.

CURRICULUM VITAE

Name: Mr. Nattawut Boonyossawat
Date of Birth: 2 January 1991
Current Education: M.Eng. (Industrial Engineering), Kasetsart university, 2020
Previous Education: B.Eng. (Industrial Engineering), Kasetsart university, 2013
Working Experience: Supply chain role position in automotive industry company