



**THE ANALYSIS OF ADULT DISPOSABLE DIAPER
INDUSTRY IN THAILAND**

BY

MISS ANKAN WONGSIRIRAT

**AN INDEPENDENT STUDY SUBMITTED IN PARTIAL
FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE PROGRAM IN MARKETING
(INTERNATIONAL PROGRAM)
FACULTY OF COMMERCE AND ACCOUNTANCY
THAMMASAT UNIVERSITY
ACADEMIC YEAR 2017
COPYRIGHT OF THAMMASAT UNIVERSITY**

**THE ANALYSIS OF ADULT DISPOSABLE DIAPER
INDUSTRY IN THAILAND**

BY

MISS ANKAN WONGSIRIRAT



**AN INDEPENDENT STUDY SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF SCIENCE PROGRAM IN MARKETING
(INTERNATIONAL PROGRAM)**

**FACULTY OF COMMERCE AND ACCOUNTANCY
THAMMASAT UNIVERSITY**

ACADEMIC YEAR 2017

COPYRIGHT OF THAMMASAT UNIVERSITY

THAMMASAT UNIVERSITY
FACULTY OF COMMERCE AND ACCOUNTANCY

INDEPENDENT STUDY

BY

MISS ANKAN WONGSIRIRAT

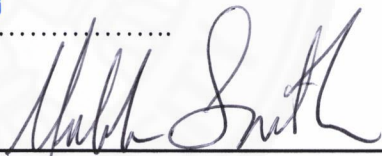
ENTITLED

THE ANALYSIS OF ADULT DISPOSABLE DIAPER INDUSTRY
IN THAILAND

was approved as partial fulfillment of the requirements for
the degree of Master of Science Program in Marketing (International Program)

on..... 10 MAY 2018

Chairman



(Professor Malcolm C. Smith, Ph.D.)

Member and Advisor



(Associate Professor James E. Nelson, Ph.D.)

Dean



(Associate Professor Pipop Udorn, Ph.D.)

Independent Study Title	THE ANALYSIS OF ADULT DISPOSABLE DIAPER INDUSTRY IN THAILAND
Author	Miss Ankan Wongsirirat
Degree	Master of Science Program in Marketing (International Program)
Major Field/Faculty/University	Faculty of Commerce and Accountancy Thammasat University
Independent Study Advisor	Associate Professor James E. Nelson, Ph.D.
Academic Year	2017

ABSTRACT

In 2016 Thailand had a population of 64.4 million which became people who aged over 60 years over 9.8 million or 15 percent of the total Thai population. The World Bank estimated Thailand would be an aging society by growing the seniors to 17 million within 2040. The older adults tend to risk being diseases as stand conditions in an older age which one of the diseases is urinary incontinence problems. The problems can occur in many causes such as a weak bladder muscle, overactive bladder, etc. The problems will affect towards using the life normally and mentality. In Thailand, the urinary incontinence prevalence found 38.8 percent; however, Thai seniors were too shy to discuss the problems. Currently, a few firms offer the adult disposable diaper for supporting the issues which help the seniors' lives better. In 2016, the adult disposable diaper valued USD 66.4 million which grew twice times since 2012. Therefore, the research study described an adult disposable diapers industry in Thailand and an analyzing of two key competitors in the industry which were Certainty™ and Lifree®. The research methodology designed both of exploratory research and descriptive research which were depth interview, secondary data and observation respectively. The depth interview conducted nine seniors and one staff of a nursing home, and the observation discovered for eight stores in three formats, a hypermarket, a supermarket and a convenient store. The results found that the seniors were mild urinary incontinence symptoms until severe symptoms (a bedridden) and they felt worried towards their symptoms. The older adults took time

for a while for deciding to buy the diapers, and the diaper attributes that they looked respectively for were the high absorbency attribution, fast drain, slim format and controlling the urine smells. Currently, the industry was dominated 95.7 percent of total market size by two companies which were DSG International (Thailand) and Unicharm. DSG was competence in taped diaper category while Unicharm was strong in pant diaper category. However, for the secondary data interview foresaw that the adult diaper market foresaw to evolve bigger recently than Thai baby disposable diapers which were USD 389 million in 2016.

Keywords: Adult disposable diaper, Adult Diaper Industry in Thailand, Adult Diaper, Incontinence Absorption Product



ACKNOWLEDGEMENTS

I would like to express my very great appreciation to my advisor, Associate Professor James E. Nelson, Ph.D. for his valuable and constructive suggestions during the planning, development and analysis of this research work. His willingness to give his time so generously has been very much appreciated.

I wish to acknowledge the education provided by all MIM Program Professors team and I would also like to extend my thanks to MIM staffs, MIM Alumni for the supports during my study.

I would like to thank the DSG International (Thailand) and DSG colleagues for their experiences and the industry history with the suggestions of my data.

I wish to thank for my husband and my family for the support and encouragement throughout my study.

Finally, I would like to offer my special thanks to all MIM 30 friends for friendship and interchange of ideas.

Miss Ankan Wongsirirat

TABLE OF CONTENTS

	Page
ABSTRACT	(1)
ACKNOWLEDGEMENTS	(3)
LIST OF TABLES	(7)
LIST OF FIGURES	(8)
LIST OF ABBREVIATIONS	(9)
CHAPTER 1 INTRODUCTION	1
1.1 Problem Statement and Research Purpose	1
1.1.1 Problem Statement	1
1.1.2 Research Purpose	2
1.2 Research Objectives	2
1.2.1 To Describe an Adult Disposable Diapers Industry in Thailand	2
1.2.2 To Understand Tw Key Competitors of an Adult Disposable	
Diapers Industry in Thailand	2
CHAPTER 2 REVIEW OF LITERATURE	3
2.1 Aging Population	3
2.1.1 World Aging Population	3
2.1.2 Thai Aging Population	4
2.2 Urinary Incontinence	5
2.3 Urinary Incontinence Prevalence in Thailand	5
2.4 Thai Attitude towards Aging and Urinary Incontinence	6
2.5 Adult Diaper	7

CHAPTER 3 RESEARCH METHODOLOGY	8
3.1 Research Methodology Design	8
3.1.1 Exploratory Research	8
3.1.2 Descriptive Research	9
3.1.2.1 Secondary Research	9
3.1.2.2 Observation	9
3.2 Sampling Plan and Data Collection	10
3.2.1 In-depth interview	10
3.2.2 Store Observation	11
3.3 Data Analysis Plan	12
3.4 Key Term Definition	13
3.5 Limitations	13
CHAPTER 4 RESULTS AND DISCUSSION	14
4.1 In-depth Interview Key Findings	14
4.1.1 Initial Stage of Experiencing Urinary Incontinence Symptoms	
Findings Summary	14
4.1.2 Initial Stage of Experiencing Urinary Incontinence Symptoms	
Findings Summary	25
4.2 Secondary data Key Findings	32
4.2.1 The Adult Disposable Diaper Industry Environment	32
4.2.2 The Competitive Intensity in Adult Diaper Industry	33
4.2.3 Regulation of Selling Adult Diaper in Thailand	34
4.2.4 Key Competitors Background and Strengths and Weaknesses	34
4.3 Observation Key Findings	38
4.3.1 Current Product Mix Introduction	38
4.3.2 Media in Stores	39
4.4 Key Success Factors of Two Key Competitors	41

CHAPTER 5 CONCLUSIONS AND RECOMMENDATIONS	44
5.1 Segment Conclusions	44
5.1.1 The Initiator Segment	44
5.1.2 The Worrier Segment	44
5.1.3 The Buddy Segment	45
5.2 Recommendations	46
5.2.1 Recommendation for Adult Disposable Diaper Industry	46
5.2.2 Recommendation for Certainty® Brand	47
5.2.3 Recommendation for Lifree® Brand	47
REFERENCES	49
APPENDICES	52
APPENDIX A: Interview Questions	53
APPENDIX B: Cartoon Test	55
APPENDIX C: Adult Diaper Brand Sold in Thailand	56
APPENDIX D: Lifree® Product Comparison between Japan and Thailand	58
BIOGRAPHY	60

LIST OF TABLES

Tables	Page
2.1 Thailand Population by Age Range in 2016	4
3.1 Sample Size of Depth Interview	10
3.2 Sample Size of Store Observation by Formats	11
4.1 Interviewee Profile	16
4.2 Initial Stage of Experiencing Urinary Incontinence Symptoms Finding	
Summary	17
4.3 Current Stage of Experiencing Urinary Incontinence Symptoms Finding	
Summary	26
4.4 Adult Disposable Diaper Products by categories by brand	38

LIST OF FIGURES

Figures	Page
4.1 2016 Adult Disposable Diaper Market Share Trend (Value) by Brand in Thailand	33
4.2 Unicharm's Brands Selling in Thailand	36
4.3 Unicharm's Corporate Philosophy	37
4.4 Tesco Lotus Stores Layout and Visibilities	39
4.5 Big C Supercenter Stores Layout and Visibilities	40
4.6 Tops Supermarket Stores Layout and Visibilities	40
4.7 7-eleven Stores Layout and Visibilities	40
4.8 TV Commercial Snapshot of Certainty Brand in 2012	41
4.9 TV Commercial Snapshot of Lifree Brand in 2013	42
4.10 TV Commercial Snapshot of Lifree Brand in 2018	43
5.1 Lifree® Perfect-Fit Gap-Free Technology	48

LIST OF ABBREVIATIONS

Symbols/Abbreviations	Terms
ADL	Activities Daily Life
COO	Chief Operating Officer
IC	Urinary Incontinence
MAT YA	Moving Annual Total Year Ago
MAT TY	Moving Annual Total This Year
SAP	Superabsorbent Polymer
SES	Socioeconomic Status
TVC	Television Commercial
THB	Thai Baht Currency
USD	US Dollar Currency
YTD YA	Year To Date Year Ago
YTD TY	Year To Date This Year
UKAS	The United Kingdom Accreditation Service

CHAPTER 1

INTRODUCTION

1.1 Problem Statement and Research Purpose

1.1.1 Problem Statement

Thailand tended to contribute the older adults who were age over 60 years old increasingly. As of 2016, Thai seniors had over 9.8 million people or 15 percent of total Thai population was 64.4 million people (Thailand Official Statistics Registration Systems, 2016). Moreover, The World Bank foresaw that Thailand would be an aging society within 2040 by increasing the contribution being over 25 percent of the total Thai population. The contribution of the entire seniors would be the highest in the world as same as China would be (The World Bank, 2016).

Two physicians (Sribenjaluk M.D. & Limpawattana M.D, 2013) noted that Thai older adults faced the urinary incontinence, IC, generally aged over 60 years old. The urinary incontinence was found in Thai female senior one third while Thai male senior was one fourth. Moreover, others physicians (Fumaneeshoat M.D. & Phaktongsuk M.D., 2017) met that only eight percent of the seniors who experienced the urinary continence visited a physician or doctor for a cure. However, the rest of the study did nothing for solving the problem by the thought of a normal aging problem.

In 2016, the adult disposable diaper market value was USD 66.36¹ million which grew twice times since 2012 (Nielsen, 2017). However, from the news (Khettia Jittapong, 2016) showed the interview of DSG International (Thailand) chief operating officer, Justin Wang, that the adult disposable diaper market would be double-digit growth within next five years. Accordingly, the COO believed Thailand would grow following the same direction as Japan which the adult diaper would be potential to develop and would evolve into bigger than Thai baby disposable diapers market size, in 2016 USD 389 million.

¹ In the study used the exchange rate by 1USD equaled 30.83THB

1.1.2 Research Purpose

The purpose of this study was a summary of an adult disposable diapers industry in Thailand and an analyzing of two key competitors in the industry.

1.2 Research Objectives

1.2.1 To describe an adult disposable diapers industry in Thailand

1.2.1.1 To describe a corporate-level strategy (Grant, R., 1991) in the industry for understanding the competitive structure of the industry.

(1) To describe environmental influences can affect the industry.

(2) To illustrate the demand and value of the products to customers.

(3) To explain the intensity of the competition in the industry concerning existing businesses (the number and size of competitors).

(4) To describe Thai government regulation of the industry.

1.2.1.2 To describe a business-level strategy (Grant, R., 1991) focusing delivers the diapers to satisfy customer needs and preferences for creating a competitive advantage in the industry.

1.2.2 To understand two key competitors of an adult disposable diapers industry in Thailand

1.2.2.1 To identify a strategic background regarding a general competitive position in the industry consists of mission and vision statement, competitive strengths and weaknesses.

1.2.2.2 To describe the current business portfolio strategy regarding existing product mix by segment and pattern of product introduction.

1.2.2.3 To identify the sources of competitive advantage regarding key success factors, core competencies, and value proposition.

CHAPTER 2

REVIEW OF LITERATURE

2.1 Aging Population

The World Health Organization defined aging as “At the biological level, aging results from the impact of the accumulation of a wide variety of molecular and cellular damage over time”. Because of that, the seniors seemed to have riskier being diseases and decreasing the power of physical and mental. A geriatric syndrome is called common conditions in older age. The syndromes can occur in several terms at the same time. Moreover, the typical health conditions are correlated with aging and being multiple factors especially frailty, urinary incontinence, pressure ulcers, etc. (World Health Organization, 2015)

2.1.1 World Aging Population

The Population Division of the Department of Economic and Social Affairs of the United Nations reported in 2015 that the world population who were aged over 60 years was predicted 56 percent growth from 901 million to 1.4 billion people within 2030. Moreover, the older people were projected to reach 2.1 billion in 2050. The people aged over 80 years were the fastest growth rate from 125 million in 2015 and will grow nearly triple time to 434 million in 2050 comparing to the other older age period. However, in 2015 the senior women who aged over 80 years were more significant, 61 percent, than senior men; the senior women proportion was foreseen to drop 3 percent in 2050. On the other hand, over 80 years old men will outlive longer that will make the sex balance in the period (United Nations, 2015).

2.1.2 Thai Aging Population

In 2016, Thai population who aged over 60 years was entirely 9.8 million or 15 percent of the total Thai people, 64.4 million. Thai senior women were 5.4 million larger than senior men were at 4.3 million (Thailand Official Statistics Registration Systems, 2016). Also, in 2016 most Thai seniors were age between 60 years to 80 years, 13 percent; Thai seniors aged over 80 years were 2.32 percent or around 1.4 million people (see Table 2.1). However, The World Bank reported that Thai population would grow over 65 years aging people speedily to 17 million within 2040. Thailand will be the highest aging proportion between developing countries in East Asia and Pacific. (The World Bank, 2016).

Table 2.1 Thailand Population by Age Range in 2016

2016 Age Range	A Number of			% of Total Contribution		
	Male	Female	Total	Male	Female	Total
Lower 10	3,830,742	3,619,321	7,450,063	6%	6%	12%
10-20	4,266,672	4,049,107	8,315,779	7%	6%	13%
20-30	4,764,170	4,629,682	9,393,852	7%	7%	15%
30-40	4,998,559	4,999,388	9,997,947	8%	8%	16%
40-50	5,089,037	5,387,628	10,476,665	8%	8%	16%
50-60	4,247,100	4,733,659	8,980,759	7%	7%	14%
60-70	2,560,690	3,018,406	5,579,096	4%	5%	9%
70-80	1,224,932	1,578,832	2,803,764	2%	2%	4%
80-90	478,486	737,045	1,215,531	1%	1%	2%
90-100	71,415	120,369	191,784	0.1%	0.2%	0.3%
Over 100	4,614	7,291	11,905	0.01%	0.01%	0.02%
<u>Grand Total</u>	<u>31,536,417</u>	<u>32,880,728</u>	<u>64,417,145</u>	49%	51%	100%
<i>Total Age Over 60</i>	<i>4,340,137</i>	<i>5,461,943</i>	<i>9,802,080</i>	<i>7%</i>	<i>8%</i>	<i>15%</i>

2.2 Urinary Incontinence

Urinary Incontinence is a symptom of uncontrollable releasing urine. The symptom occurs from weak bladder muscle, overactive bladder muscles, weak pelvic floor muscles, etc. Notably, the IC can appear in a standard for women. However, IC can also occur in men as well. The urinary incontinence in men mostly correlates with Prostatitis, an enlarged prostate gland, injury to muscles from surgery, etc.

The urinary incontinence can divide into four types which are Stress incontinence, Urge incontinence, Overflow incontinence and Functional incontinence. The IC has always found in the beginning stage is stress incontinence. The stress incontinence is an involuntary leak of urine as pressure, for example, occurs when sneezing, coughing, during exercise, or even when starts around menopause time periods. Moreover, the other stages consist of urge incontinence, overflow incontinence, and functional incontinence. Nevertheless, in the older adults, the incontinence can be mixed stage of the symptoms particularly the functional incontinence which take place in older people still have standard bladder control as deteriorated body function such as arthritis or other disorders that make the seniors cannot get to the toilet in time (U.S. Department of Health & Human Services).

2.3 Urinary Incontinence Prevalence in Thailand

The urinary incontinence also was founded in general in Thai seniors especially in Thai women. The research found that Thai seniors, who were menopause, faced the problem of urinary incontinence at 38.8 percent. Moreover, mixed urinary incontinence was seen the most at 82 percent and stress urinary incontinence 12.3 percent and urges urinary incontinence 5.6 percent. The problems affected by Thai seniors' health, well-being and social encouragement. Additionally, the older adults were too shy to a discussion about their urinary incontinence problems and other health problems. So that the issues will become chronic urinary incontinence instead of transient urinary incontinence from know too late to medication (Inkoom, 2015).

2.4 Attitude towards Aging and Urinary Incontinence

Attitudes toward aging was a perception of people against on their aging which found that the older a person grew, the more negative reaction against old age would be (Goldman & Goldman, 1981). However, the views towards aging had a relationship with chronic conditions, functional disability, and mental health. In Thailand, the researcher found that Thai senior had positive attitudes toward their aging also found that the positive reactions affected to better health and well-being of the older adults (Aryal, 2014).

The report (Choomthaworn, 2010) found that Thai seniors felt shame and afraid to visit any physicians for a cure that they did decide to solve the problem by themselves or did not a thing. Most seniors chose to answer by using the fragrance until less drinking water. However, the seniors felt shy and strange to wear an adult diaper because of they were concerned to be less of an adult from incapably controlling urination like childish and felt afraid others knew the problems and wore the diapers. Moreover, the seniors felt guilty to their problems if they had to use the diaper because of increasing the family expenses. Society created a shame against incontinence and wearing adult diapers; so, the acceptance of the uncontrolled urination problems took time momentarily (Davis, 2015).

2.5 Adult Diaper

An adult diaper could separate by using a material as a cloth diaper and a disposable diaper. The cloth diaper is made of cloth which shape as a conventional square fastened by pins, and it can add extra layers to increase the ability of absorption. Besides, the disposable diaper is made from non-woven with an absorbent mat. When comparing between the cloth diapers and the disposable diaper found that the cloth diaper was more efficient both of the absorbency and the effectiveness in sleeping position than the disposable one was. Nonetheless, the cloth diapers were quite more bulky, more difficult to hide when wearing, more stored a urine odor and quite more expensive initially (Davis, 2015).

If divided by wearing, the adult disposable diapers can split into two characteristics that comprise of pull-ups (pant) and taped diapers. Pull-ups are protective underwear in term of diaper manufacturers. Moreover, the pull-ups usually are suitable for the light urinary incontinence. However, taped diapers can hold up heavy urinary incontinence or bowel incontinence (Davis, 2015).

A selection of an adult disposable diaper always compared to the level of absorbency as “the better absorbent is, the more premium is.”. Though, the ratings of the absorbency were able to misrepresent in the current product in the marketing at present. In reality, a high absorbent capacity will not work well, unless wick well. In the other hand, the diapers could operate more efficiently ability if the high absorbency came together with a fast draw-off the urine by capillary action (Davis, 2015).

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research Methodology Design

3.1.1 Exploratory Research

The research conducted an in-depth interview for refining the problem of urinary incontinence stages, attitudes, feelings and behavior toward using the adult disposable diapers. The study interviewed nine- seniors who arranged first two-people for a pilot test to set the questions (see Appendix A), and proper wordings for enabling the older adults projected their feelings and beliefs. Moreover, the in-depth interview also conducted a staff working in a nursing home, Ban Bangkae Nursing Home, for confirming the seniors' feelings and seniors' behaviors.

After the pilot was tested the research, a projective technique used to discover the older feelings toward the urinary incontinence symptoms. A word association, a cartoon test (see Appendix B), was used to find the word in senior's feelings towards the diapers such as the wording of the adult disposable diapers and the urinary incontinence or uncontrollable of urination. The cartoon-test displayed in three characteristics of being urinary incontinence since a small leakage symptom, a moderate leakage symptom and uncontrolled urine. The cartoon test preferred to encourage the seniors telling precisely about the urinary incontinence problems. The depth interview was described and understood the objectives 1.2.1.1(2) and 1.2.1.2.

3.1.2 Descriptive Research

3.1.2.1 Secondary Research

The fact-finding data mainly found from relevant official websites, articles and reports from Thai government department or state enterprises, for example, Thailand Official Statistics Registration Systems, Ministry of Commerce, The Thai Urological Association, DSG International annual reports and Unicharm Integrated reports. Moreover, the data were searched on the Internet concerning urinary incontinence in Thailand, adult diapers, disposable diaper, feelings towards urinary and wearing diaper both of Thai language and English. The data were described and understood the objectives 1.2.1.1 (1), 1.2.1.1 (3), 1.2.1.1 (4), 1.2.2.1 and 1.2.2.3.

3.1.2.2 Observation

The observation was conducted for describing brand-name items sold and a delivering product pattern arrangement on stores' shelves, other visible marks of each brand and observing consumer behavior. The stores' sample will be chosen eight stores in Bangkok area. The data were described and understood the objectives 1.2.2.2.

3.2 Sampling Plan and Data Collection

3.2.1 In-depth interview

The interviewees were recruited from a personal contact which non-probability sampling method with a snowball sampling. The sampling was recommended by the seniors and their friends' seniors because of the seniors readily willing to interview and more reveal. The interviewee profile attempted to disclose using the adult diapers. The interview arranged two people for the pilot test and seven people for accomplishing meetings and also a nursing home or assisted living facility (see Table 3.1). The interview session did by in-person.

Table 3.1 Sample size of Depth Interview

Type of research	Methodology	Characteristic	Sample Size
Qualitative	In-depth interview	Age: Over 60 Years Gender: Male and Female Living address: Homebound Area: Thailand SES: Any socioeconomic status	9 people (2 people for pilots and 7 people for actual interview)
Qualitative	In-depth interview	Nursing home staffs or officers in assisted living facility	1-2 people

3.2.2 Store Observation

The research observed on eight stores in three store types which were four hypermarket store branches, two supermarket store branches and two convenience store branches (see Table 3.2). The observation in diaper format and diaper brand name wrote after going stores immediately, and a photo of main selling shelves in stores supported by the store staffs. The diaper format and brand names of diapers observed as a priority, and then a point of purchase displays was noted.

Table 3.2 Sample size of store observation by formats

Type of research	Methodology	Store Format	Sample size
Qualitative	Store observation	Hypermarket stores	
		• Tesco Lotus	• 2 branches
		• Big C Supercenter	• 2 branches
		Supermarket	
		• Tops Supermarket	• 2 branches
		Convenience stores	
		• 7-Eleven	• 2 branches

3.3 Data Analysis Plan

Data of the interview were processed by coded the keyword of the personal interviews, and then use the color to categorize the similar wording or different wording. The blue color explained the most similar group, and later the light yellow described some similar group. Moreover, the italic and dark blue characters identified male separating from the female. The groupings were analyzed for looking patterns or trends of the unstructured data due to explaining the seniors' perception and behavior of using the adult diaper and interpreting real customers' value. Moreover, the data were ranked by age for examining the overview if the data had some significant between ages. Moreover, sex was marked visibly to observe the differences between sexes. Secondary data in term of fact-finding was gathered and found for the history, current situation of the market performance, competitors' news, brand strategies and trend analysis from an interview. Finally, the observation was summarized by store type first. The kind and brand of the diaper introduction each store format were summarized. Moreover, the media at the stores recognized for significant visibilities in entirety.

3.4 Key Term Definition

Older adults in this research were the people that have age over 60 years old and live with their families or on their own or a nursing home or assisted living facility. Adult disposable diapers in the study were meant a folded piece made from paper, having absorbent material inside, the capability to be thrown away after used up and worn as underpants by an adult.

3.5 Limitations

Four limitations were noted in the data collection process. First, some interviewees were quite senior that was able to remember clearly or accurately; might affect the accuracy of the results. Second, the secondary data from the government and the data about urinary incontinence in Thailand were insufficient. Third, the secondary data were not up to date, and some data were ambiguous about the units of measurement. Finally, the existing research reports and the case studies conducted only some parts in Thailand which were not represented to the whole Thai seniors.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 In-depth Interview Key Findings (Objective 1.2.1.1 (2) and 1.2.1.2)

4.1.1 Initial Stage of Experiencing Urinary Incontinence Symptoms

Key Findings Summary

The interviewees' profile comprised of nine older adults who were aged between 60 to 88 years old and one nursing home staff. The interviewees consisted of seven senior women and two senior men, and all interviewees lived with their family and their home in Thailand. The interviews found that in the initial stage of the urinary symptoms the interviewees started experiencing the symptoms between age 59 to 73 years old which most seniors were able to stand and walk generally on their own. The first urinary incontinence symptoms began to be able to hold urine to some extent with a small leakage of urine during the day. However, most seniors but during the night half of them were able to hold urine to some extent with a moderate leakage of urine before reaching the bathroom.

Surprisingly, when all of them firstly faced the symptoms, they did nothing for a cure or consulting to any others, but only one person told his family. Although the person who informed the family was suggested to use diapers; he still did not use until one year past, and he used when he went out. The main reason that made the older adults did nothing, was the embarrassment because they felt scared that other people perceived them as being ill, being like a child or even a loss of sexual desire or sexual performance in the male interviewee. Moreover, the interviewees preferred not going out because they were afraid to make it to the bathroom in time and also were scared that the other people smelt their urine when they stayed nearby.

At the initial stage, half of them just “knew” the adult disposable diapers which were surprisingly transliterated as “Pampers” as a disposable diaper and called “Pampers Pu-Yai” for the adult diapers. Furthermore, they knew the diapers from TV commercial and stores; they felt towards “disposable” diapers in term of hygiene. Most interviewees thought that the diapers were regularly used for patient or use in a hospital only; otherwise, they postponed using the diapers which hold up from one year to fifteen years for making the decision.

Nevertheless, after the delay, the interviewees started to decide to use the diapers because of seeing TV commercial, seeing on store shelves, physician suggestion and seeing other people as the same age used respectively. Moreover, the reason that the interviewees hold up to use was the feelings against the symptoms was mild or thought that was typical symptoms form aging; they pressed the diapers were pricey and felt the big format of diaper might be visible when wearing. Notably, the interviewees who were age lower 65 years old searched on the Internet before they made the purchasing of the diapers. The key wording of individual data interviewed as follow:

Table 4.1 Interviewee Profile

Interviewee ID	1	2	3	4	5	6	7	8	9	10
Source	Friend of Friends family	Friend of Friends family	Friend Family	Friend of Friends family	Family	Friend of Friends family	<i>Family</i>	<i>Family</i>	Family	Nursing Home
Profile	Elder	Elder	Elder	Elder	Elder	Elder	<i>Elder</i>	<i>Elder</i>	Elder	Staff
Age	60	62	64	68	70	72	<i>75</i>	<i>80</i>	88	47
Sex	Female	Female	Female	Female	Female	Female	<i>Male</i>	<i>Male</i>	Female	Female
Having Kids	Yes	No	Yes	Yes	Yes	Yes	<i>Yes</i>	<i>Yes</i>	Yes	n.a.
Current Living with	Family	Family	Family	Family	Family	Family	<i>Family</i>	<i>Family</i>	Family	n.a.
Place	Nontaburi	Bangkok	Bangkok	Prachuap Khiri Khan	Bangkok	Nakornpat hom	<i>Bangkok</i>	<i>Prachuap Khiri Khan</i>	Prachuap Khiri Khan	Bangkok

Table 4.2 Initial Stage of Experiencing Urinary Incontinence Symptoms

Interviewee ID	1	2	3	4	5	6	7	8	9	10
1. At what age did you first experience urinary incontinence	59	60	57	62	64	68	73	70	~ 67	
2. At that time, who did you live with?	Family members; Husband	Family members; Children	Family members; Husband and Children	Family members; Husband and Children	Family members; Husband	Family members; Husband and Children	Family members; Wife and Children	Family members; Wife and Children	Family members; Children	Nursing home
3. At that time, When you began to experience urinary incontinence symptoms, were you able to go to the bathroom by yourself?	Stand and walk normally by themselves	Stand and walk normally by themselves	Stand and walk normally by themselves	Stand and walk normally by themselves	Stand and walk normally by themselves	Stand and walk by yourself but with slow movement	Stand and walk normally by themselves	Stand and walk by yourself but with slow movement	Stand with the help of others	

Table 4.2 Initial Stage of Experiencing Urinary Incontinence Symptoms (continue)

Interviewee ID	1	2	3	4	5	6	7	8	9	10
4. Prior to experiencing urinary incontinence symptoms, what was your ability to hold urine during the "day"? (See Pictures)	Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom	Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom	Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom especially when coughed	Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom	Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom	Able to hold urine to some extent with a moderate leakage of urine prior to reaching the bathroom	Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom	Able to hold urine to some extent with a moderate leakage of urine prior to reaching the bathroom	Able to hold urine to some extent with a moderate leakage of urine prior to reaching the bathroom	
5. Prior to experiencing urinary incontinence symptoms, what was your ability to hold urine at "night"? (See Pictures)	Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom	Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom	Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom	Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom	Able to hold urine to some extent with a moderate leakage of urine prior to reaching the bathroom	Able to hold urine to some extent with a moderate leakage of urine prior to reaching the bathroom	Able to hold urine to some extent with a moderate leakage of urine prior to reaching the bathroom	Able to hold urine to some extent with a moderate leakage of urine prior to reaching the bathroom	Able to hold urine to some extent with a moderate leakage of urine prior to reaching the bathroom	

Table 4.2 Initial Stage of Experiencing Urinary Incontinence Symptoms (continue)

Interviewee ID	1	2	3	4	5	6	7	8	9	10
6. When you began to experience urinary incontinence symptoms, what did you do?	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	<i>Nothing</i>	<i>Nothing</i>	Nothing	
7. At that time, Did you consult with anyone?	No	No	No	No	No	No	<i>inform family members</i>	<i>No</i>	No but the family knew from seeing	
8. In the case of "consult with anyone", how long did you decide to tell them after being the symptoms?							<i>Around 1 year</i>			

Table 4.2 Initial Stage of Experiencing Urinary Incontinence Symptoms (continue)

Interviewee ID	1	2	3	4	5	6	7	8	9	10
9.In the case of “visit a doctor, research information, consult with friends, inform family members, and other”, what were their recommendations?							<i>Suggest to use the adult diaper</i>			
10.In the case that you were advised to wear an adult diaper, what did you do afterwards?							<i>Use the adult diaper when go out</i>			
11.During the initial stage of experiencing symptoms, what were your feelings and attitude towards urinary incontinence?	Embarrassed	Embarrassed	Embarrassed	Embarrassed and did not want to leave the house	Embarrassed and did not want to leave the house	Embarrassed and did not want to leave the house	<i>Embarrassed and did not want to leave the house</i>	<i>No Opinion</i>	Did not want to leave the house	Embarrassed and did not want to leave the house

Table 4.2 Initial Stage of Experiencing Urinary Incontinence Symptoms (continue)

Interviewee ID	1	2	3	4	5	6	7	8	9	10
12.In the case of “embarrassed”, what was the reason for such embarrassment?	scared that other people will perceive you as being ill or unable to control urine	scared that other people will perceive you as being ill or unable to control urine	scared that other people will know that you cannot control your body like a child	scared that other people will perceive you as being ill or unable to control urine	scared that other people will perceive you as being ill or unable to control urine	scared that other people will perceive you as being ill or unable to control urine	<i>scared that other people will associate the loss of urinary control with the loss of sexual desire</i>			scared that other people will perceive you as being ill or unable to control urine
13.In the case of “did not want to leave the house”, what was your reason for not wanting to leave the house?			scared that other people will be able to smell your urine	scared that you will not be able to make it to the bathroom in time and scared that other people will be able to smell your urine	scared that you will not be able to make it to the bathroom in time and scared that other people will be able to smell your urine	scared that you will not be able to make it to the bathroom in time and scared that other people will be able to smell your urine	<i>scared that you will not be able to make it to the bathroom in time and scared that other people will be able to smell your urine</i>		scared that you will not be able to make it to the bathroom in time and scared that other people will be able to smell your urine	scared that you will not be able to make it to the bathroom in time

Table 4.2 Initial Stage of Experiencing Urinary Incontinence Symptoms (continue)

Interviewee ID	1	2	3	4	5	6	7	8	9	10
14.Initially, did you "know" about adult disposable diapers?	Yes	Yes	Yes	Yes	Maybe	Yes	No	No	No	
15.In case of "know", how did you know the adult disposable diapers?	TVC and stores	TVC and stores	TVC and stores	Stores	Stores	Children told				
16.In case of "know", how did you "think" about adult disposable diapers?	for sick people (used at hospital)	for seniors	for sick people (used at hospital)	for sick people (used at hospital)	for sick people (used at hospital)	for sick people (used at hospital)				
17.Initially, how did you feel about diapers that are "disposable"?	Hygiene	Hygiene	Hygiene	Hygiene	Hygiene	Hygiene				

Table 4.2 Initial Stage of Experiencing Urinary Incontinence Symptoms (continue)

Interviewee ID	1	2	3	4	5	6	7	8	9	10
18. When did you decide to purchase/wear disposable diapers?	2017	2017	2017	2013	2014	2014	2016	2004	2002	
	(Age 60)	(Age 62)	(Age 64)	(Age 64)	(Age 67)	(Age 69)	(Age 74)	(Age 67)	(Age 73)	
Summary of No. of year recently became urinary incontinence	1	2	7	6	6	4	2	10	21	
Summary of No. of year recently decide to purchase/wear disposable diapers?				4	3	3	1	13	15	
Age when bought/wore the adult disposable diapers	60	62	64	64	67	69	74	67	73	
Experience using diaper (Year)	< 1yr	< 1yr	< 1yr	4	3	3	1	13	15	

Table 4.2 Initial Stage of Experiencing Urinary Incontinence Symptoms (continue)

Interviewee ID	1	2	3	4	5	6	7	8	9	10
19. At that time, why did you decide to purchase/use disposable diapers?	Needed more Convenient and Saw an adult diaper TVC	Needed more Convenient and Saw an adult diaper TVC	Needed more Convenient, Saw an adult diaper TVC and saw at store shelves	Saw at store shelves and TVC	Saw at store shelves and TVC	Saw an adult diaper TVC	<i>Saw his wife wore them and wanted to feel convenient when go out</i>	<i>Physician suggested</i>	Physician suggested	
20. And before you decided to purchase/use the adult diapers what is the reason that you didn't not purchase/wear earlier?	Felt the symptom was mild so no need to use any diapers	Felt the symptom was mild so no need to use any diapers	Felt the symptom was mild so no need to use any diapers	Felt pricey	Felt pricey and did not want others knew that wore the diapers	Felt pricey and did not want others knew that wore the diapers	<i>Did not want others knew that wore the diapers and thought that symptom was</i>	<i>Did not any know about the disposable diapers</i>	Did not any know about the disposable diapers	
21. In the case of "decided to purchase/use diapers", did you consult with anyone prior to the purchase?	Search on the Internet	Search on the Internet	Search on the Internet	No	No	No	No	<i>Family members suggested</i>	Family members suggested	

4.1.2 Current Stage of Experiencing Urinary Incontinence Symptoms

Key Findings Summary

For the current stage of experiencing urinary incontinence symptoms, the most interviewees were able to hold the urine to some extent with a small leakage of urine before reaching the bathroom, but they leaked more frequently and increased more amount of urine. Some of them started to less hold urine to some extent with a moderate especially at night; however, one became bedridden. Although the interviewees in this stage experienced to use the diapers, most of them had not consulted with any others yet. Accordingly, 50 percent of the interviewees felt worried progressively towards their current symptoms, and they were afraid to be more severe.

Moreover, they supposed that they did not want to go to the hospital and one of them gave the reason that he did not want to raise the family expenses. In this stage, the interviewees felt that the adult disposable diapers were hygiene, convenient, useful and vital to their life. Moreover, they considered agreeably towards “disposable” diaper as the same, hygiene. For the purchasing, most of them bought by themselves at a supermarket. For the attribution of the diapers, the high absorbency attribution, fast drain, slim format and controlling the urine smells were influent to them mainly. Currently, the brands in their consideration set were Certainty™ and Lifree® which almost was satisfied the products. However, the factors that the interviewees were affected when they had to buy were a price, promotion, and media respectively.

For nursing home staff interview found that almost data from this stage confirmed the feelings and the behavior were the same as interviewed seniors. Not only did the older adults not tell anyone about their urinary incontinence, but they also felt worried the symptoms. The staff felt that the disposable diaper was able to support the seniors by making them more convenient and hygiene. However, the older adults in the nursing home were different levels of urinary incontinence symptoms; the staffs required the diapers which were high absorbency and easy to remove as the most important. The key wording of individual data interviewed as follow:

Table 4.3 Current Stage of Experiencing Urinary Incontinence Symptoms

Interview ID	1	2	3	4	5	6	7	8	9	10
Currently, who do you live with?	Family members	Family members	Family members	Family members	Family members	Family members	<i>Family members</i>	<i>Family members</i>	Family members	
Currently, Are you able to go to the bathroom by yourself?	Stand and walk normally by yourself	Stand and walk normally by yourself	Stand and walk normally by yourself	Stand and walk by yourself but with slow movement	Stand and walk by yourself but with slow movement	Stand and walk by yourself but with slow movement	<i>Stand and walk normally by yourself</i>	<i>bedridden</i>	Stand and walk with the help of others	Some can stand and walk by themselves but with slow/very slow movement and some need to help to stand and walk

Table 4.3 Current Stage of Experiencing Urinary Incontinence Symptoms (continue)

Interviewee ID	1	2	3	4	5	6	7	8	9	10
Currently, what is your ability to hold urine during the "day"?	Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom but now is more frequent	Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom but now is more frequent	Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom but now is more frequent	Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom but now is more frequent	Able to hold urine to some extent with a moderate leakage of urine prior to reaching the bathroom	Able to hold urine to some extent with a moderate leakage of urine prior to reaching the bathroom	<i>Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom but now is more frequent</i>	<i>Able to hold urine to some extent with a moderate leakage of urine prior to reaching the bathroom</i>	able to hold urine but cannot walk by herself to reaching the bathroom in time	Most able to hold urine to some extent with a moderate leakage of urine prior to reaching the bathroom and full leakage of urine
Currently, what is your ability to hold urine at "night"?	Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom but now is more frequent	Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom but now is more frequent	Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom but now is more frequent	Able to hold urine to some extent with a small leakage of urine prior to reaching the bathroom but now is more frequent	Able to hold urine to some extent with a moderate leakage of urine prior to reaching the bathroom	Able to hold urine to some extent with a moderate leakage of urine prior to reaching the bathroom	<i>Able to hold urine to some extent with a moderate leakage of urine prior to reaching the bathroom</i>	<i>Unable to hold urine (full leakage of urine)</i>	Able to hold urine to some extent with a moderate leakage of urine prior to reaching the bathroom	Seniors who can walk will walk to bathroom; normally they usually not hold the urine because of their slow movement

Table 4.3 Current Stage of Experiencing Urinary Incontinence Symptoms (continue)

Interviewee ID	1	2	3	4	5	6	7	8	9	10
Currently, Do you still consult with anyone about the symptoms?	No	No	Used to consult with a pharmacist	No	No	No	<i>Inform family members</i>	<i>No</i>	No but the family knew from seeing	No
Currently, what are your feelings and attitude towards urinary incontinence?	Worried and feared that symptoms will be more	Annoyed	Worried and feared that symptoms will be more	Worried and feared that symptoms will be more	Neutral	Neutral	<i>Worried and feared that symptoms will be more</i>	<i>No Opinion</i>	Neutral	Most worried
In the case of “Worried”, what is the reason for such worry?	Do not want to go to a hospital	Do not want to go to a hospital	Do not want to go to a hospital	Do not want to go to a hospital			<i>Do not want to go to a hospital and do not want to make children pay for</i>			Do not want to go to a hospital and do not want to increase expenses

Table 4.3 Current Stage of Experiencing Urinary Incontinence Symptoms (continue)

Interviewee ID	1	2	3	4	5	6	7	8	9	10
Currently, how do you “feel” about adult disposable diapers?	Convenient and Clean	Convenient and Clean	Convenient and Clean	for sick people (used at hospital)	Hygiene and Convenient	Convenient	<i>for sick people (used at hospital) and Convenient</i>	<i>Useful</i>	Useful, Hygiene and Important for life	Convenient and Hygiene
Currently, how do you feel about diapers that are “disposable”?	Hygiene	Hygiene	Hygiene	Hygiene	Hygiene	Hygiene	<i>Hygiene</i>	<i>Hygiene</i>	Hygiene	Hygiene
Currently, Which type of diapers do you choose? (tape or pants)	Sanitary or Pants (depend on situation)	Sanitary and Pants (depend on situation)	Pants	Pants	Pants	Pants	<i>Pants</i>	<i>Tape and inserted pad</i>	Tape, inserted pad and Pants	Depends on the Senior's movement
Currently, who initially purchase them for you?	By myself	By myself	By myself	By myself	By myself and sometime husband	Buy with children	<i>By myself</i>	<i>Family members</i>	Family members	Buyers, Seniors' relatives and donations

Table 4.3 Current Stage of Experiencing Urinary Incontinence Symptoms (continue)

Interviewee ID	1	2	3	4	5	6	7	8	9	10
Currently, Where are they purchased from?	Supermarket	Supermarket	Supermarket	Supermarket	Supermarket	Supermarket	<i>Supermarket</i>			Stores and Donation
Currently, What are the attributes that influenced the purchase?	Slimy pad/pants (like briefs), high absorbency and fast drain	Slimy pants (like briefs), high absorbency and fast drain	Do not leakage and can control the smell of urine	High absorbency and can control the smell of urine	High absorbency and can control the smell of urine	High absorbency and fast drain	<i>Slimy pants (like briefs), high absorbency</i>	<i>Slimy pants (like briefs), high absorbency</i>	High absorbency, fast drain	High absorbency and easy to remove
Currently, which brand do you choose to purchase from?	Lifree	Lifree	Lifree	Certainty	Certainty	Certainty	<i>Certainty</i>	<i>Certainty and Lifree inner pads</i>	Certainty and Lifree inner pads	Certainty and Lifree inner pads
In the case where a family member purchases them for you, are you able to tell the purchaser about your preferences on the attributes, brand, and type of diapers? (tape or pants)						Yes		No	Yes	

Table 4.3 Current Stage of Experiencing Urinary Incontinence Symptoms (continue)

Interviewee ID	1	2	3	4	5	6	7	8	9	10
How do you feel about disposable diapers that you use currently?	Satisfied	Quite dissatisfied	Satisfied	Satisfied	Satisfied	Satisfied	<i>Satisfied</i>	<i>Satisfied</i>	Neutral	Quite Satisfied
If you can choose only one attribute for disposable diapers, what would that be?	High absorbency	High absorbency	Controlled smell of urine	High absorbency	Controlled smell of urine	Slim	<i>High absorbency</i>	<i>High absorbency</i>	High absorbency	High absorbency
What are the factors that affect your decision to purchase diapers, in addition to the attributes? (E.g. advertisement, price, accessibility, promotion)	Price and Promotion	Price and Media	Price, media and Promotion	Price and Promotion	Price	Price	<i>Price, Packaging and Color of the packaging</i>	<i>Price and packaging (for men)</i>	Price	Price

4.2 Secondary Data Key Findings (Objective 1.2.1.1 (1), 1.2.1.1 (3), 1.2.1.1 (4), 1.2.2.1 and 1.2.2.3)

4.2.1 The Adult Disposable Diaper Industry Environment

From Thai Bureau of Senior Health, a part of Thai Ministry of Public Health has developed the seniors long-term care systems. The government has set the project for seniors that proposed with the concept of “*Smart Walk, Smart Brain, Smart Eat, Smart Sleep and Smart Emotion.*” The project has aimed to give a health knowledge and proper behavior to Thai older adults. The project has studied since October 2017 and will finish in September 2018 (Thai Bureau of Senior Health, 2017). Besides, Thai National Health Security Office reported that approved the annual government statement of expenditure in 2016 for USD 19.46 million to be a fund for Thai seniors who were homebound and bedridden. However, the spending focused on entirely taking care of the medical services, supporting, preventing and restoring the seniors’ group (Thai National Health Security Office, 2016). Also, Thai Elderly Person Act B.E. 2552 regulated that Thai older adults are supported the welfare allowance for USD 16.22 per month from Thai Comptroller General’s Department (Limprayurayong, 2010).

For the economic factors affecting to the industry, the Center for Aging Society Research, CASR, found that Thai seniors who were age over 60 years old did not any work and did not any income for 63.2 percent. Moreover, the seniors who worked got monthly income for 23.1 percent (an average wage per month at USD 758). The rest who worked got daily income for 13.7 percent (an average wage per day at USD 15.55). However, the reason for the most seniors who did not work informed that they felt as being an older and being unhealthy (Nida Poll, 2016).

For the technology development, the adult diaper has developed from cloth diaper to disposable diaper; however, the critical innovation has started from the design format of the disposable diaper. Moreover, the technology of using the absorbent polymers began for absorption the liquid inside the mat. However, the researcher discovered that the innovative techniques increased the efficiency to absorb 30 times its weight in the liquid called “Superabsorbent Polymer” Gel or SAP Gel. Not only the innovation becomes decreasing a diaper rash problem but also making less for the expenditure (Srinivas & Dhar, 2016). Consequently, the quality of life for wearing diapers will be improved.

4.2.2 The Competitive Intensity in Adult Diaper Industry

Adult diapers performance in Thailand, the value was USD 66.4 million in 2016 which enlarged around twice times from USD 35.8 million in 2012. The industry was driven by two key brands with Certainty® and Lifree® which the market share from these two brands gained 95.7 percent at the end of 2016. And the rest, 4.3 percent, came from four small house brands and others, for instance, An-An, Secure, Ancare, ScoobeDry, etc. (Nielsen, 2017) (see Figure 4.1). Certainty® belongs to DSG International (Thailand), DSG, which has been the highest market share for the adult disposable diaper at 65.3 percent of 2016 total market share value. However, another big brand was Lifree® which is a brand of Unicharm from Japan was the secondary market share at 30.4 percent of total market share value (Nielsen, 2017).

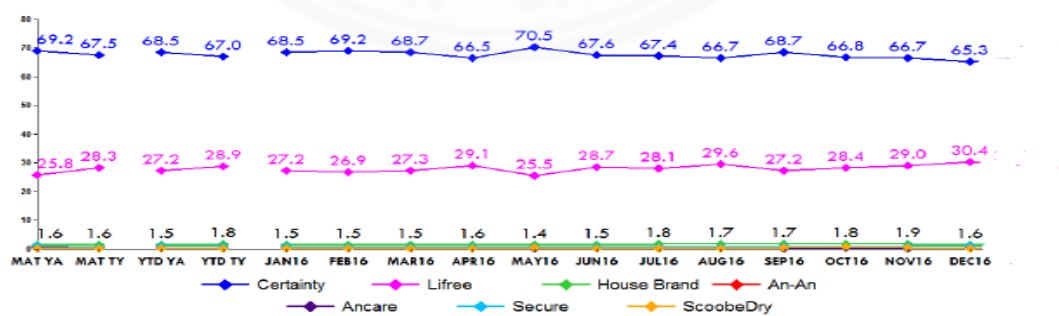


Figure 4.1 2016 Adult Disposable Diaper Market Share Trend (Value) by Brand in Thailand

4.2.3 Regulation of Selling Adult Diaper in Thailand

An adult disposable diaper in Thailand ruled as one of the medical devices following Medical Device Act B.E. 2551 (2008). Because of the Act defined that “Medical device” means; “an instrument, tool, mechanical device or object that is used for insertion into a human or animal body, fluid for laboratory examination, product, software or any other object specifically intended by the manufacturer for one of the following uses, either solely or as a constituent or accessory of any other object” (Thailand Law Forum, 2016). Therefore, the manufacturer and trading companies need to implement the law and the regulations of Thai FDA under control of Ministry of Public Health by asking the permits in selling, communicating and distributing.

4.2.4 Key Competitors Background and Strengths and Weaknesses

DSG International (Thailand) Company Limited is a baby (Babylove Brand and Kira Kira Brand) and adult diaper (Certainty™ brand) company which established in Thailand since May 1994. DSG stands for Disposable Soft Goods which is a subsidiary of DSG International Limited (DSGIL), the holding company, founded in Hong Kong in 1973. DSG listed on The Stock Exchange of Thailand on Aug 2006 abbreviated DSGT with registered capital USD 9.73 million, and as of 2016 DSGIL was holding 66.54 percent of total shares. DSGT operate the diapers through Thailand, Malaysia, Indonesia and Singapore which has the head-quarter in Bangkok. However, DSGT already delisted from The Stock Exchange of Thailand as at June 2017 because North Haven Private Equity Asia Angel Company Limited (NHPEA), known as “Morgan Stanley Private Equity Asia IV,L.P., intended to delist after finished the tender offer for securities. NHPEA offered to purchase total shares of DSGT for the objective making a long-term investment; finally, NHPEA bought additional shares increasingly only 3.88 percent. Before the tender offer, NHPEA already held 28.84 percent shares; however, after the tender offer, NHPEA become 32.72 percent of DSGT paid-up shares (The Stock Exchange of Thailand, 2017).

To be the leading disposable diaper manufacturer and distributor in South East Asia is a current vision for DSG. However, the mission is “To provide products and services of the best quality and value to our customers”. DSG believes that developing the products and committing an innovation drives from customer insights will improve the products and customers each personal level. DSG products have approved the quality by ISO 9001 and UKAS². DSG in Thailand has run the adult incontinence product business under the brand Certainty™ since 1994 (DSG International (Thailand), 2016). The company has started to sell diapers especially tape type as the first mover; so, Certainty™ brand has become the well-known brand in common. Certainty™ brand has been competence for years by being the number one market shares which in 2016 Certainty™ “taped type” by gaining 89 percent shares. In contrast, Certainty™ pant type has quite less competitively at 38.6 percent of total pant type share following Lifree® increased 58.5 percent the share. At present, DSG has provided Certainty™ brand which has produced an adult disposable diaper range only.

Unicharm is a Japanese company that defined themselves as the company that operates in areas of non-woven fabrics and absorbent materials. In Japan, Unicharm has offers five-product segments to the consumers comprising of baby and child care, feminine care, health care, clean & fresh and pet care. Unicharm was founded in Japan by Keiichiro Takahara since 1961 which was the first name as Taisei Kako Co., Ltd. The company initially produced and sold wool cement board in Japan until 1974 the company started to build and sell feminine care products. As a consequence of that, the company renamed from Taisei Kako to Unicharm which was combined by “Uni” (unique) and “Charm” (women will always remain charming” due to fitting the feminine product manufacturer. Presently, Unicharm mainly consists of 12 brands including Moony®, MamyPoko®, Trepanman®, Oyasumiman®, Sofy®, Center-in®, Wave®, Silcot®, Cook Up®, Unicharm®, Charm Nap® and Lifree® (Unicharm, 2017).

² The United Kingdom Accreditation Service is internationally agreed standards, organizations that provide certification, testing, inspection and calibration services.

In Thailand, Unicharm established in 1987 as a joint venture with Thai company, OSOTSPA, which operated for Unicharm between 1987 to Mar 2017 and presently Unicharm has been running the business on their own. In Thailand, Unicharm offers three segments of baby and child care, feminine care and health care. Unicharm presented into three brands comprise to MamyPoko® (baby diapers and wet wipes), Sofy® (a feminine sanitary), Lifree® (a urinary incontinence absorption care) (see Figure 4.2). However, Unicharm just began to sell the adult disposable diaper since 2003.



Figure 4.2 Unicharm's Brands selling in Thailand

Unicharm's corporate philosophy (see Figure 4.3) was set clearly and declared as the system which was not only the ideals but also the beliefs and pledges and organizational principles of actions. For the ideals, Unicharm addressed to create a better quality of life for everyone by offering only the finest products and services to customers, both in Japan and abroad. The ideals aimed to strive to pursue proper corporate management principles which combine corporate growth, associate well-being and to fulfill social responsibilities. Moreover, Unicharm aspired to be honest and harmonize by respecting the independence of the individual and striving to promote the Five Great Pillars. In Thailand, Unicharm has been steadfast in both of for a disposable baby diaper in MamyPoKo® brand and a feminine sanitary in Sofy® brand. MamyPoko® and Sofy® have been the leader of the market for years and in 2016 the brand gained 65 percent for the baby diaper and 54 percent for the sanitary (Unicharm, 2017). Although, for total disposable adult diaper shares Lifree® were a secondary share, in pant type share Lifree® has started to be a number one by gaining 58.5 percent the share.

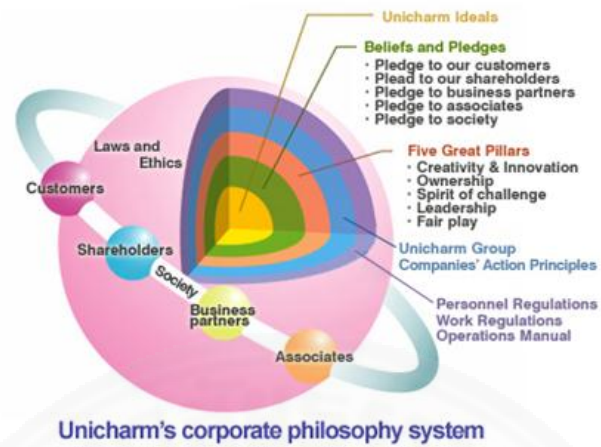


Figure 4.3 Unicharm's Corporate Philosophy

4.3 Observation Key Findings (Objective 1.2.2.2)

4.3.1 Current Product Mix Introduction

From the observation at the stores found that a brand name sold the adult disposable diaper consisted of Certainty™, Lifree®, Tesco Soft Care, AnAn, i-Care, Big C Adult Diapers, FeelFree and Relief by KAO (see Appendix C). The principal competitors that had in every observed store were Certainty™ brand and Lifree® brand. Certainty™ brand suggested for two main characteristics as taped disposable diapers, called Certainty™ Active, and pant disposable diapers series. The pant diaper series consists of three brand names of Certainty™ Super Pants, Certainty™ Day Pants and Certainty™ Sabai Pants. However, Unicharm in Thailand presented a variety of urinary sanitary pads in two brands as Charmnap® by Lifree®, Lifree® sanitary pads and Lifree® inner pads. Moreover, Unicharm offered four pants series and one taped diaper respectively called, Lifree® Pant Absorption for a long time, Lifree® Pant For Absorption, Lifree® Easy Wearing, Lifree® Ultra Slim and Lifree® Tape Dryness (see Table 4.4).

Table 4.4 Adult Disposable Diaper Products by Categories by brand.

Company	Urinary Sanitary Pads	Adult Disposable Diaper	Inner Pads
DSG International (Thailand)	No		No
Unicharm in Thailand 			

Source : <http://www.certainty.co.th/> and <http://www.lifree.co.th/index.html>

4.3.2 Media in Stores

Media in observed stores found that each store which was the same chain was quite similar to merchandise and product assortment. Two branches of Tesco Lotus had a lot of Lifree® displays such as hanging, headboard, divider, shelf talker, brochure, product samplings(see Figure 4.4). Moreover, Tesco Lotus had product assortment between regular pack³ up to mega pack⁴. While two branches Big C Supercenter and Tops Supermarket had no significant displays for any brands and the products were the same as Tesco Lotus (see Figure 4.5 and 4.6). However, two branches of 7-eleven (see Figure 4.7) had also not any point of sales, and the product assortment was suggested in a small pack which was about three to four pieces per bag.



Figure 4.4 Tesco Lotus Layout and Visibilities

³ Regular pack = 8-11 pieces per bag depends on size and brands

⁴ Mega pack = 16 to 34 pieces per bag depends on size and brands



Figure 4.5 Big C Supercenter Layout and Visibilities



Figure 4.6 Tops Supermarket Layout and Visibilities



Figure 4.7 7-eleven Layout and Visibilities

4.4 An Analysis of Key Success Factors of Two Key Competitors (Objective 1.2.2.3)

Key Success factors of DSG International (Thailand) has first launched and suggested broadly the products to Thailand. From the interview, some interviewees said that they just knew or retained Certainty™ better than Lifree®. DSG not only launched Certainty™ brand, especially taped diapers as the first mover to the market at that time, but DSG also distributed efficiently to the market since some hospitals, chained stores until Mom and Pop shop stores. Besides, most interviewees felt satisfied qualities the products which implied the taped diaper market share reaching 89 percent of the taped diaper. For the media, some interviewees said about Certainty TV commercial (Certainty Diaper (DSG Official), 2012) in 2012 (see Figure 4.8) that was firstly awareness for the adult diaper. Most of them said the TV commercial impacted to them a lot especially the tagline as “True Love comes from caring each other.”. The TV commercial was affected to feelings by showing the story attached an emotion about the taking care the parents like they ever had when being a child. Because of that, they became remembered the brand till now.



Figure 4.8 TV Commercial Snapshot of Certainty in 2012

Unicharm key success factors had started since 2013 which aimed to focus on giving knowledge of using a “pant” diaper. Unicharm has launched Lifree® pants characteristic diaper competitively into series, and more variety of offerings consist of urinary sanitary pads, adult diaper and urinary inner pads for inserted into a diaper. Moreover, the pants diaper of Unicharm in Lifree brand has grown continuously and significantly year by year since Lifree® launched TV commercial (Lifree Thailand, 2016) in 2013 (see figure 4.9). The TVC extremely attacked to Certainty brand which used the strategy of changing Thai’s perceptions of using the taped diaper. Lifree® aimed to change seniors’ behavior by switching to their pant diapers. Lifree® TVC directly communicated to switch tape diapers to pant diapers greatly better for life by saying in the commercial that *“Most older-adults who were changed a diaper on their bed were able to stand by themselves. Therefore, if they were capable to stand, they should be considered to go to the bathroom by themselves due to prevent being bedridden and made their bodies moving. Lifree® pant-type diaper was able to wear easily by themselves and similarly original underwear.”*

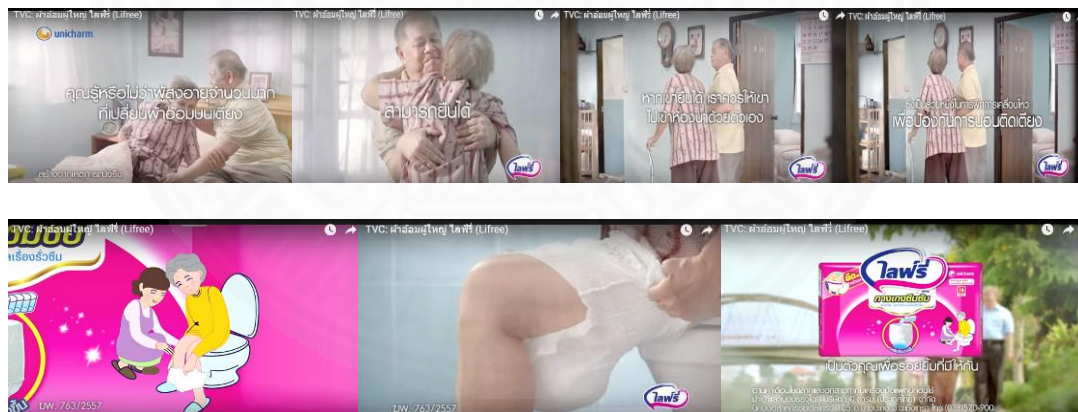


Figure 4.9 TV Commercial Snapshot of Lifree® in 2013

Moreover, in 2017 Lifree® has kept launching the new TV commercial which suggested the new pant diaper range, Ultra slim pant diaper. The TV commercial (Lifree Thailand, 2018) has started to attach an emotion to brand creation which linked wording “happiness in life and being your lifestyles with Lifree®” being mono-phone to life is free. Lifree® aimed to target notably female by using a female

spoke person who was well known and credible named Khun Sirivipa Kultangwattana⁵ (see Figure 4.10).

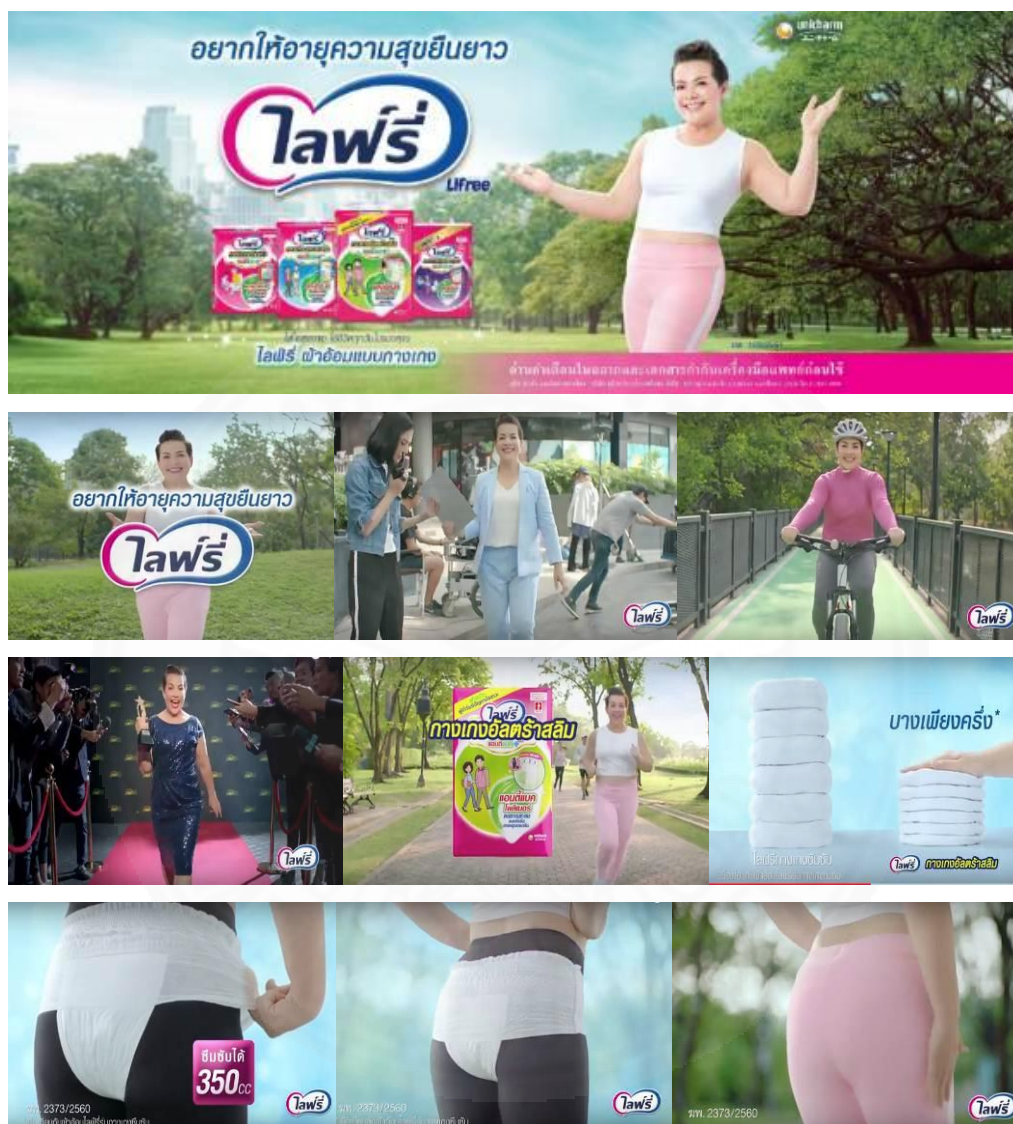


Figure 4.10 TV Commercial Snapshot of Lifree in 2013

⁵ Khun Sirivipa Kultangwattana received Host and Artist Excellence Award from Thai Ministry of Labor at March 8, 2017 (*Ministry of Labour*, 2017)

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Segment Conclusions

The adult disposable diaper can be analyzed and summarized into three segments which categorized from considering the stage of the urinary incontinence symptoms mainly.

5.1.1 The Initiator Segment

This segment is expected to be a mild urinary incontinence symptom which faces a small leakage during the day. The customers appear early 60 years old (Interviewees ID number 1 and 2) and seem able to stand and walk normally by themselves. They seem embarrassed by the urinary symptoms, but they are likely to attempt to find the data about the problems by searching on the Internet or look around the stores. Moreover, this segment assumes experiencing a short period of the symptoms which are estimated less than two years. The customers seem around for convenient and clean products. The products that had been used for the interviewees were a urinary sanitary pad or a pant diaper.

5.1.2 The Worrier Segment

This segment is expected to be a mild to medium urinary incontinence symptom which faces a small to medium leakage during the day and/or the night. The segment appears age between 64 years to 75 years (Interviewees ID number 3 to 7). The customers might stand and walk normally by themselves or stand and walk with slow movement. This segment can visibly find that the customers feel embarrassed and do not want to leave the houses because they are afraid other people will be able to detect or smell the urine. Besides, they feel worried towards their symptoms to be more severe. TV commercial seems to affect and influent to the segment from most of them deciding to purchase the diapers from this channel mostly. Moreover, the diaper

attributes might focus on a high absorbency level, a controllable smell of urine technology and slim format respectively. This stage, customers seems to use a pant diaper in generally.

5.1.3 The Buddy Segment

This segment is expected to be a medium to high or mixed urinary incontinence symptom which faces multiple types of leakage or uncontrollable the urine during the day and the night or bedridden. The segment appears age over 75 years (Interviewees ID number 8 and 9). The customers stand and walk with slow movement or with the help of others. This segment, the customers need the high absorbency level with high drain efficiency. This stage can observe that the customers use the taped diaper for the night and pant diaper for the day. For the segment, the nursing home staff was likely to require the attribute of easy to remove.

5.2 Recommendations

5.2.1 Recommendation for Adult Disposable Diaper Industry

At present, a shopper has confused in the level of absorbency; so, the government should specify the level standard by the regulation clearly wording claims for all firms. The different wordings claimed the absorbency level ambiguously and differently between brands or even within their brands. The standardization will help a consumer to choose the suitable diaper for each stage of urinary incontinence symptoms, perception and deciding to purchase the diaper. Moreover, the customers might be losing money unnecessarily, times and also their feelings if they become to select the wrong type or series because of the claims.

Currently, the brands seem to focus only female segment because the problem of urinary incontinence even found regularly in the female. However, a male has also discovered and suffered the problems. Because of that, the products for men might be proposed for satisfying and supporting this segment which needs specific and sensitive characteristics such as slimy formats with high absorbency level. The male segment can be potential as the new substantial market in the future if it is designed and groomed well in term of the right product fit, the right color of packaging and the right shelf selling positions.

Furthermore, only some Thai people who face the urinary incontinence problems understand the benefit of the disposable diaper so the company should provide the knowledge of the symptoms and how to take care themselves when being the symptoms in hygiene ways. Moreover, the firms might promote and communicate to Thai social about being supports towards who face the symptoms better look down both of wordings and actions. Finally, the disposable diaper in the long-run might affect to Thai ecosystem; so, has to show each company should show the responsibility towards Thai ecosystem both of hygienically eliminating used diapers and clean recycling.

5.2.2 Recommendation for Certainty™

DSG International (Thailand) has been well known for years; so, to penetrate a new product line by leveraging Certainty® brand name will easily and creditably recommend to the customers. For the long-term strategy, DSG should concentrate to penetrate a product line for the initial stage. To draw the initial stage users will be able to retain the customers' mind when their symptoms become increasing. Moreover, DSG might raise a pant category because pant type has been growing significantly for a few years. If the pant category belongs to others' leader completely for long, it will hardly recover the market share back. The new products might be more suggest for instance the controlled urine smell series or the high absorption with slim formats to both female and male. Finally, Certainty® might prevent the tape category, which has been the leader, by suggesting an innovation to a design or an ingredient of the diaper or might offer the new line of inner pads for competing with Lifree®.

5.2.3 Recommendation for Lifree®

Unicharm® in Japan has been greatly competent for sanitary and diaper; however, Unicharm® for Lifree® brand in Thailand become present only some series of the urinary incontinences product comparing to many categories and series in Japan (see Appendix D). Because of that, Unicharm in Thailand might propose more product variant to answer customers' preferences such as "Fit-Thin type light" tape hold series and "Fit-Thin type Feel safe" tape hold series. The offerings might be a product that is produced in Thailand or even imported from Japan. The imported product might make Thai acceptance easily because most Thai perceives the products from Japan are quite high quality. Moreover, Lifree® in Thailand might also adapt the products or tailored the products, especially for Thai customers' need, preference or Thai body characteristics. Besides, Lifree® might focus on high and fast absorption for preventing urinary leakage which Unicharm in Japan already patented (*Unicharm*, 2017), called Perfect-fit gap-free (see Figure 5.1).



Figure 5.1 Lifree® Perfect-Fit Gap-Free Technology

REFERENCES

- Aryal, S. (2014). *The Relationship of Attitudes toward One's Own Aging to Physical and Mental Health of Older Adults in Kanchanaburi, Thailand*.
- Camp, J., Champaneri, N., Conway, J., Evans, I., Mckennie, C., Narducci, M., Et Al. (2011). *Thailand and Adult Diapers Feasibility Study*. Kimberly-Clark Corporation.
- Certainty Diaper (DSG Official). (2012, Jul 27). Retrieved from YouTube:
<https://www.youtube.com/watch?v=y4pyJ-ALZb0>
- Choomthaworn, A. (2010, Feb 18). Prachachat Business. Retrieved from Prachachat Business Online:
https://www.prachachat.net/news_detail.php?newsid=1266459581
- Davis, J. (2015). *An Introduction to Adult Diapers: Their Selection and Wear*.
- DSG International (Thailand). (2006). *2006 Annual Report: Industry Outlook for Adult Diapers in Thailand*. The Securities and Exchange Commission, Thailand.
- Fumaneeshoat M.D., O., & Phaktongsuk M.D., P. (2017, Feb). *Prevalence of Urinary Incontinence in the Elderly in Banpru Municipality*. *Songklanagarind Medical Journal*, 35(2), 133-138.
- Goldman, R., & Goldman, G. (1981). *How Children View Old People And Aging*. *Australian Journal of Psychology*, 405-418.
- Grant, R. (1991). *Contemporary Strategy Analysis (Seventh Edition)*. John Wiley & Sons, Ltd.
- Inkoom, J. (2015). *Urinary Incontinence in Elderly*. *Journal of Medicine and Health Sciences (Thailand)*, Vol.22 No.1 P.59 - 68.
- Khettiya Jittapong, P. T. (2016, August 16). *Firms in Aging Thailand Bet on Demand Surge for Robots and Diapers*. Retrieved From Reuters:
<https://uk.reuters.com/article/us-thailand-ageing/firms-in-aging-thailand-bet-on-demand-surge-for-robots-and-diapers-idukkc10q284>
- Lifree Thailand. (2016, Jan 25). Retrieved from YouTube:
<https://www.youtube.com/watch?v=CAhtnS5qDyI>

Lifree Thailand. (2018, Feb 25). Retrieved from YouTube:

https://www.youtube.com/watch?v=Gg56_URc3QU

Limprayurayong, H. (2010). *Urinary Incontinence Material and Tools*. First Step for the Study of Urinary Incontinence Pad and Adult Disposable Diaper for Elders and Disabled People, 8. Ministry of Labor. (2017, Mar 8). Retrieved Mar 31, 2018, From Ministry Of Labor:

<Http://Www.Mol.Go.Th/Content/57743/1488956018>

Nida Poll. (2016, May 4). *Thai Elders' Economic Status in 2016*. Retrieved Mar 20, 2018, From Nida Poll: <Http://Nidapoll.Nida.Ac.Th/Index.Php?Op=Polls-Detail&Id=63>

Nielsen. (2017). *Total Adult Diapers Value - Total Thailand Retail Index*. Nielsen.

Patientpop Inc. (2017). *Stress Urinary Incontinence*. Retrieved From Total Urology Care Of New York:

<Https://Www.Totalurologycare.Com/Contents/Services/Treatment-Conditions-We-Treat/Stress-Urinary-Incontinence>

Sribenjaluk M.D., W., & Limpawattana M.D, P. (2013). *Urinary Incontinence in Thai Elderly*. North-Eastern Thai Journal of Neuroscience, 8(2), 82-92.

Srinivas, S. M., & Dhar, S. (2016, Mar 31). *Advances in Diaper Technology*.

Retrieved Mar 28, 2018, From Reseachgate:

Https://Www.Researchgate.Net/Publication/299510002_Advances_In_Diaper_Technology

Thai Bureau of Senior Health. (2017, Feb 20). Retrieved March 20, 2018, From Bureau of Senior Health:

Http://Eh.Anamai.Moph.Go.Th/Download/Article/Article_20180227115012.Pdf

Thai National Health Security Office (NHSO). (2016). *Long Term Care Handbook*. Thai National Health Security Office (NHSO).

Thailand Law Forum. (2016, October 26). *Thailand Laws Database*. Retrieved From Thai Law Forum: [Http://Www.Thailawforum.Com/Medical-Device-Act-2551/](http://www.thailawforum.com/Medical-Device-Act-2551/)

Thailand Official Statistics Registration Systems. (2016, December). *Thailand Population as Of December 2016*. Retrieved From Thailand Official Statistics Registration Systems: [Http://Stat.Dopa.Go.Th/Stat/Statnew/Upstat_Age_DisP.php](http://stat.dopa.go.th/stat/statnew/upstat_age_disp.php)

The Stock Exchange of Thailand. (2017, Jun 20). Retrieved Feb 26, 2018, From the Stock Exchange of Thailand: [Https://Www.Set.Or.Th/Set/Newsdetails.Do?Newsid=14979168009000&Language=en&Country=Us](https://www.set.or.th/set/newsdetails.do?newsid=14979168009000&language=en&country=us)

The World Bank. (2016, June). *Thailand Economic Monitor - June 2016: Aging Society and Economy*. Retrieved From the World Bank: [Http://Www.Worldbank.Org/En/Country/Thailand/Publication/Thailand-Economic-Monitor-June-2016-Aging-Society-And-Economy](http://www.worldbank.org/en/country/thailand/publication/thailand-economic-monitor-june-2016-aging-society-and-economy)

U.S. Department of Health & Human Services. (N.D.). *Urinary Incontinence in Older Adults*. Retrieved From National Institute on Aging: [Https://Www.Nia.Nih.Gov/Health/Urinary-Incontinence-Older-Adults](https://www.nia.nih.gov/health/urinary-incontinence-older-adults)

Unicharm Corporation. (2017). *Unicharm*. Retrieved From Unicharm Japanese Sites: [Http://Www.Unicharm.Co.Jp/English/Index.Html](http://www.unicharm.co.jp/english/index.html)

Unicharm. (2017). *Integrated Report (Annual Report)*. Retrieved From [Http://Www.Unicharm.Co.Jp/English/Ir/Library/Annual/8_Strategy_Progress_E_2017.Pdf](http://www.unicharm.co.jp/english/ir/library/annual/8_strategy_progress_e_2017.pdf)

United Nations, D. O. (2015). *2015 World Population Ageing*. The United Nations.
World Health Organization. (2015, September). *Ageing and Health*. Retrieved From World Health Organization: [Http://Www.Who.Int/Mediacentre/Factsheets/Fs404/En/](http://www.who.int/mediacentre/factsheets/fs404/en/)

The seal of Thammasat University is a circular emblem. It features a central five-tiered umbrella (parasol) with a sword resting on top. The sword's hilt is on the left, and the blade points towards the right. The entire emblem is encircled by a border containing the university's name in Thai script at the top and "THAMMASAT UNIVERSITY" in English at the bottom.

APPENDICES

APPENDIX A

INTERVIEW QUESTIONS

Initial Stage of Experiencing Urinary Incontinence Symptoms

1. At what age did you first experience urinary incontinence symptoms?
2. At that time, who did you live with?
3. At that time, when you began to experience urinary incontinence symptoms, were you able to go to the bathroom by yourself?
4. Prior to experiencing urinary incontinence symptoms, what was your ability to hold urine during the "day"? (See Pictures)
5. Prior to experiencing urinary incontinence symptoms, what was your ability to hold urine at "night"? (See Pictures)
6. When you began to experience urinary incontinence symptoms, what did you do?
7. At that time, did you consult with anyone?
8. In the case of "consult with anyone", how long did you decide to tell them after being the symptoms?
9. In the case of "visit a doctor, research information, consult with friends, inform family members, and other", what were their recommendations?
10. In the case that you were advised to wear an adult diaper, what did you do afterwards?
11. During the initial stage of experiencing symptoms, what were your feelings and attitude towards urinary incontinence?
12. In the case of "embarrassed", what was the reason for such embarrassment?
13. In the case of "did not want to leave the house", what was your reason for not wanting to leave the house?
14. Initially, did you "know" about adult disposable diapers?
15. In case of "know", how did you know the adult disposable diapers?
16. In case of "know", how did you "think" about adult disposable diapers?
17. Initially, how did you feel about diapers that are "disposable"?
18. When did you decide to purchase/wear disposable diapers?

19. At that time, why did you decide to purchase/use disposable diapers?
20. And before you decided to purchase/use the adult diapers what is the reason that you didn't not purchase/wear earlier?
21. In the case of “decided to purchase/use diapers”, did you consult with anyone prior to the purchase?

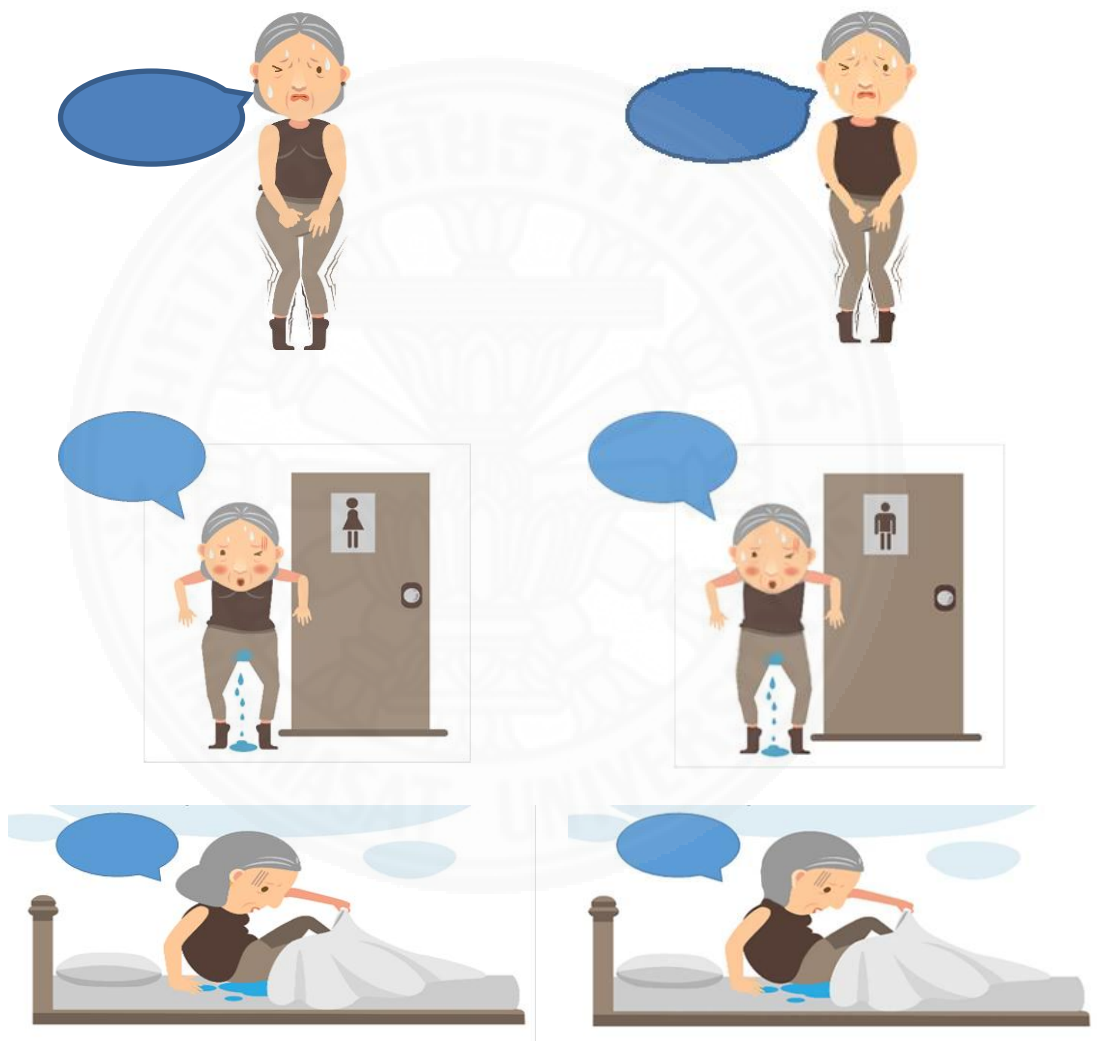
Current Stage of Experiencing Urinary Incontinence Symptoms

22. Currently, who do you live with?
23. Currently, are you able to go to the bathroom by yourself?
24. Currently, what is your ability to hold urine during the "day"?
25. Currently, what is your ability to hold urine at "night"?
26. Currently, do you still consult with anyone about the symptoms?
27. Currently, what are your feelings and attitude towards urinary incontinence?
28. In the case of “Worried”, what is the reason for such worry?
29. Currently, how do you “feel” about adult disposable diapers?
30. Currently, how do you feel about diapers that are “disposable”?
31. Currently, which type of diapers do you choose? (tape or pants)
32. Currently, who initially purchase them for you?
33. Currently, where are they purchased from?
34. Currently, what are the attributes that influenced the purchase?
35. Currently, which brand do you choose to purchase from?
36. In the case where a family member purchases them for you, are you able to tell the purchaser about your preferences on the attributes, brand, and type of diapers?
(Tape or pants)
37. How do you feel about disposable diapers that you use currently?
38. If you can choose only one attribute for disposable diapers, what would that be?
39. What are the factors that affect your decision to purchase diapers, in addition to the attributes? (E.g. advertisement, price, accessibility, promotion)

APPENDIX B

CARTOON TEST

Thematic Apperception Test for describing urinary Incontinence Symptoms for a female and a male.



Credit photo from: (PatientPop Inc., 2017)

APPENDIX C

ADULT DIAPER BRAND SOLD IN THAILAND

Certainty™



Source: <http://www.certainty.co.th/>

Lifree®



Source: <http://www.lifree.co.th/index.html>

Tesco Soft Care



Source: <https://shoponline.tescolotus.com/groceries/th-TH/>

AnAn



Source: http://www.spmilkcenter.com/home/product_sheet.html and The Research Obsevation

i-Care



Source: The Research Obsevation

Big C Adult Diapers



Source: <https://www.bigg.co.th/fresh/health-beauty/feminine-care-adults-diapers/adults-diapers-incontinent-pad.html>

FeelFree and



Source: The Research Obsevation

Relief by KAO



Source: The Research Obsevation

APPENDIX D

LIFREE PRODUCT COMPARISON BETWEEN JAPAN AND THAILAND

Category	Products	Japan	Thailand
Tape type	▪ Lifree Side Leakage Anshin Tape Hold		
	▪ Lifree Nobiru Fit Thin Type with Light Tape Holds		×
	▪ Lifree Nobiru Fit Thin Type with Anshin (Feel safe) Tape holds		×
Pants type	▪ Lifree Feels Like Underwear Ultra Thin Pants		
	Lifree Thin-Type Keikai Pants		
	▪ Lifree Cho-jikan Thin Type Pants		
	▪ Lifree Rehabilitation Pants		
	▪ Lifree Cho-jikan Anshin Pants Without Urinary Absorption Pad		×
	▪ Lifree Rehabilitation Pants without Taking off pants		×
	▪ Lifree Slim-fit style underwear		×

Category	Products	Japan	Thailand
Incontinence pads	▪ Lifree Skin Comfort Urine Absorption Pad for Long Use ▪ Lifree Skin Comfort Urine Absorption Pad for Nighttime. ▪ Lifree Cho-jikan Anshin Urine Absorption Pad Super for Daytime ▪ Lifree All night Anshin Urine Absorption Pad ▪ Lifree Ashin Urine Absorption Pad for women ▪ Lifree Ashin Urine Absorption Pad for men ▪ Lifree Anti-slip Ashin Urine Pads for Underwear	      	   × × × ×
Other adult care products	▪ Lifree Wet Wipes Toilet-flushing Type ▪ Lifree Wet Wipes Sturdy Type ▪ Lifree Super Large Sukkiri Wet Wipes ▪ Lifree Sarasara Body Sheet ▪ Lifree Futon Anshin Sheets	    	× × × × ×

BIOGRAPHY

Name	Ms Ankan Wongsirirat
Date of Birth	June 14, 1985
Educational Attainment	2006: Bachelor's Degree in Economic, Srinakharinwirot University
Work Position	Key Account Manager DSG International (Thailand)
Work Experiences	Key Account Executive Beiersdorf (Thailand) Distributor Sales Executive Unilever Thai Trading Fund Management Officer Muang Thai Life Assurance Co.Ltd