

Chapter 2

Literature Review

2.1 Condominium Information

2.1.1 Condominium Definition

The Condominium Act B. E. 2522 (1979) of Thailand proposed that the term “Condominium” refers to a building that is either a personal property or a common property.

“Unit” pertains to a building that is independently owned.

“Personal property” is the Condominium units, other structures or land provided for individual units.

“Common property” doesn’t refer to the whole building rather it refers to just one part of the building. Although it is a separate unit with no personal land ownership, there are constructed properties that are intended for common use.

“Certificate of Condominium ownership” relates to a file that shows the ownership of the condominiums whether as a personal property or as a common property.

“Regulations” relates to regulations of condominiums.

2.1.2 Chiang Mai Condominium Classification

Refer to Chiang Mai Properties Services’ Information (2016): Chiang Mai Condominium units are classified into 4 categories based on the price of per square meter. Classifications are based on the maximum number of condominiums in a project that falls into each category.

Table 2.1 Category of Condominium

Category	Price
Luxury	Above 100,000/m ²
High end	75,000—99,999/m ²
Mid – range	50,000-74,999Baht/m ²
Entry level	below 50,000 Baht/m ²

Source: Chiang Mai Properties.co.th, 2016, online

2.1.3 Chiang Mai Condominium Areas Definition

Refers to the report from The Kasikorn Bank (2015) that categorizes condominium areas into the following:

Chiang Mai – Lampang Highway is a major road that loops around the city and turns down south. The residential property along this road has increased in the past 2 years.

Northwest Side Kan Khlong Chonpratan and Nimmanhaemin Road are popular areas for foreigners.

Southeast Side Chang Khlan and Charoen Prathet Road are the more expensive areas near the famous Night Bazaar and the Ping River where brand-name establishments are located.

2.1.4 Thailand Condominium Industry's Current Situation and Future Outlook

According to the Kasikorn Thai Bank report, “Thai residential property continues to grow though at a slower pace amid market slowdown and its slowly recovering economy.” The newly launched units in 3Q2015 were down to 40% from 2Q2015 and many launches have been delayed until 2016. The government has taken some market stimuli such as tax relief, fee reductions, and relaxed lending conditions. Due to those policies, the sales and the leasing market for the luxury segment have begun to recover in the beginning of the year. Moreover, with the mass transit and infrastructure development, these will lead to the continued growth of Thailand's Condominium industry in the long run.

Many foreigners are interested in buying residential properties in Thailand mainly for investment, vacation, and retirement. The main foreign buyers and investors are from Russia, The United States, Australia, United Kingdom, Canada and New Zealand. However, it is significant to note that the number of buyers from China has been increasing sharply. According to the juwai.com survey results, the Chinese Thailand Residential Purchasing Intent Index increased to 180 per cent until the 2015Q2 which has evidently soared over the traditional top 5 buyers' intent index. Consequently, Chinese potential buyers have become the biggest group of foreign potential buyers. The top 4 property investment destinations are Bangkok, Pattaya, Phuket and Chiang Mai.



Figure 2.1 Chinese Thailand Residential Purchase Buying Interest Index

Source: www.juwai.com

2.1.5 Chiang Mai Condominium Industry's Current Situation and Development Trend

2.1.5.1 Supply

According to the report of Kasikorn Bank (“Real Estate Market in Thailand Opportunities for Chinese Investors”), an oversupply has resulted from the 2013 property boom in Chiang Mai. As of August 2015, Chiang Mai has 169,020 condominium units available in which the one-bedroom units make up 66% of the supply and the other 24% are the studio units.

2.1.5.2 Demand

The land office statistical data show that the total international sale of 2014-2016.8 rapidly decreased from 251 to 44 units and the annual decrease rate is more than 50%. On the contrary, the proportion of Chinese buyers has gradually increased in the international sales. In 2014 the Chinese buyers' share was 47%, it was at 52.5% in 2015, and in 2016 the share of Chinese buyers rose to 68.2%. These figures reveal that the Chinese are becoming the top 1 foreign buyers of Chiang Mai Condominium units.

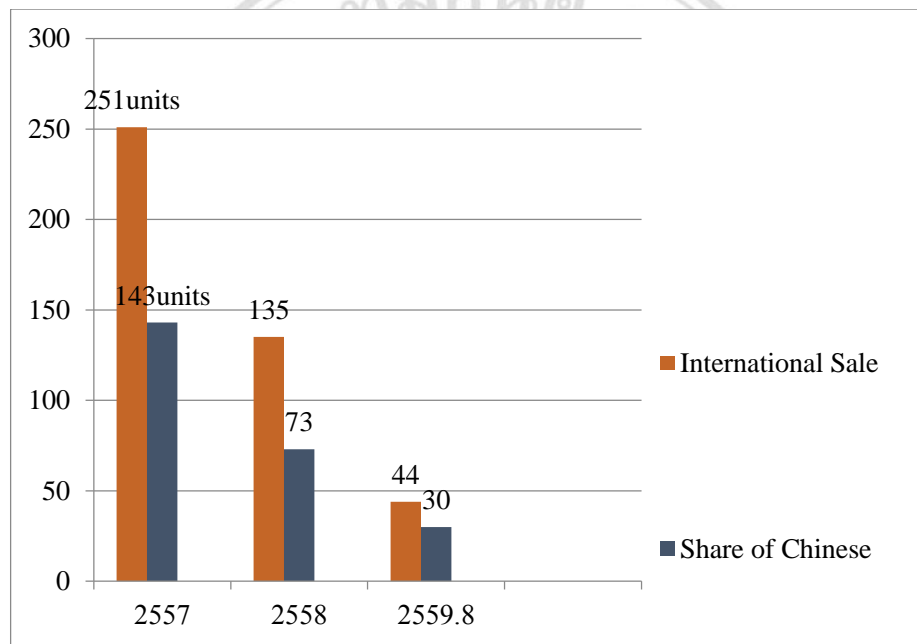


Figure 2.2 Chiang Mai Condominium International Sale Statistics from 2557-2559.8

Based on Chiang Mai Land Office

Figure 2.1 indicates that the number of Chinese buyers has jumped up to 180 percent. In contrast, Chiang Mai is one of the top 4 popular investment destinations since it is the largest city in Northern Thailand. Moreover, Chiang Mai is also the northern region's main economic center and tourism hub. From 2013 to 2014 the arrival of Chinese tourists in Chiang Mai has flourished (Figure 2.3). In connection with the tourists' industry development, many Chinese investors decide to invest in Chiang Mai properties.

Nationality	2014		2013		%Δ 2014/2013
	Number	%Share	Number	%Share	
East Asia	1,126,003	48.54	1,185,942	51.15	-5.05
ASEAN	510,032	21.99	502,930	21.69	1.41
Brunei	892	0.04	983	0.04	-9.26
Cambodia	37,200	1.60	38,527	1.66	-3.44
Indonesia	41,459	1.79	44,006	1.90	-5.79
Laos	96,340	4.15	83,985	3.62	14.71
Malaysia	182,760	7.88	201,981	8.71	-9.52
Myanmar	12,373	0.53	12,114	0.52	2.14
Philippines	21,463	0.93	22,051	0.95	-2.67
Singapore	68,228	2.94	58,189	2.51	17.25
Vietnam	49,317	2.13	41,094	1.77	20.01
China	309,731	13.35	339,067	14.62	-8.65
Hong Kong	20,249	0.87	26,961	1.16	-24.90
Japan	118,383	5.10	137,348	5.92	-13.81
Korea	132,554	5.71	143,799	6.20	-7.82
Taiwan	30,782	1.33	31,694	1.37	-2.88
Others	4,272	0.18	4,143	0.18	3.11

Figure 2.3 International Tourist Arrivals to Thailand January 2014

Source: Ministry of Tourism and Sports, Thailand International

Although there is a great opportunity for the Condominium industry in Chiang Mai, both the increase in the Buying Interest Index and the ineffective intentional sale situation pose as challenges. Moreover, there is a big gap between the target group of big potential buyers and the gradually decreasing sale performance year by year. Thus, it is essential to improve the sale performance through finding out the reasons and the solutions to this problem.

2.2 Related Theories

2.2.1 Marketing Theories

2.2.1.1 4Ps Marketing Mix

1) 4Ps Marketing Mix in General

The four P's marketing mix is composed of product, price, place, and promotion. Describing the product properties in the market, Culliton (1948) proposed that the research finding of marketing decision-making process should be similar to the formula of the original marketing mix. Borden (1965) claimed that the first person to have used the term "marketing mix" is Culliton. Culliton suggested the original term "mixer of ingredients" in 1948. Before Borden claimed this theory, the marketing mix was discussed and completed by Rasmussen (1955), Mickwitz(1959), and Frey (1961). Until 1965, Borden has started to use the term marketing mix in which his original marketing

mix had a set of 12 elements namely, product planning, pricing, branding, channels of distribution, personal selling, advertising, promotions, packaging, display, servicing, physical handling and fact finding and analysis. Eventually, McCarthy (1964) further refined Borden's (1965) idea and defined the marketing mix as a combination of all of the factors at a marketing manager's command to satisfy the target market. He regrouped Borden's 12 elements to four elements or 4Ps: product, price, promotion, and place at a marketing manager's command to satisfy the target market. This research aims to study the consumer behavior to meet the target group. Kotler (1986) adds political power and public opinion formation to the Ps concept while Baumgartner (1991) suggests the concept of 15 Ps.

Price in 4P's means the cost that buyers need to pay for the product or service that they want to get. It is decided based on many factors such as market share percentage, competition, material cost, product desirability and customer satisfaction. It changes depending on the product's market demand and supply situation.

Place in 4P's refers to the location where the consumers purchase their product or service which include the sales channel and the physical or virtual platform such as supermarkets or websites.

The product or services can be manufactured such as when a restaurant provides food for the consumer. The house and condominium were produced for investors and local people.

Promotion consists of both outstanding components-advertising and sale counter. It's the communication channel between consumers and marketers that is utilized by the marketing manager. Advertising in this theory includes newspaper, videos, websites, billboards, and some cinema commercials.

2) 4Ps Marketing Mix Application in Condominium Industry

Product

MacLennan, (2012) proposed that a product can be tacit or explicit. Aside from the physical product or core service, it also takes into account the components of a human smart product such as design, product features, brand reputation, packaging, and

staff service. In regard to condominiums, the style of the condominium, space or utility area function, parking lots, and even security systems are considered. Even though buyers get fully informed before the purchase decision-making, they still need to make a Field investigation for the condominium program.

Nowadays, condominiums have become more popular and more convenient for living and vacation. But because it is a high-cost consumer product, buyers need to consider many factors before purchasing. Although more and more real estate properties are coming into the market, a property purchaser will investigate a property for a special time before making a decision to buy it (Pryce and Oates, 2007). Looking at it from a buyer's viewpoint, a house is not only an investment but also a high - priced consumption good. (Hung and So, 2010)

Price

Price can affect a buyer's motivation for purchasing a property both directly and indirectly. Also, the need for a property and length of time also affects the buyer's purchase motivation (Dua, 2007). Some real estate properties have indicated special affecting factors that may make the price different such as the product's special properties. In addition, because there are only a few residential properties that have been compared based on their characteristics before the purchasing decision-making, buyers have ended up taking products and services that cost more (Hwang and Quigley, 2009).

Condominium buyers, sale managers, and real estate agencies set the market price of a condominium by analyzing the data and information gathered from people who already a condominium property. "Market price" can be drawn only completely from an asset of a past transaction statistical data because condominium property differs in structure, enjoyed for its different locational attributes, and the price value changes according to market conditions and operators overtime. In addition, since the condominium transaction is infrequent, the new information of market value is updated slowly.

Place

Levy, D., Murphy, L and Lee, C.K.C (2008) proposed that the agency who presents an offer on behalf of the buyers knows the requirements and budget well and usually develops a relationship with the customers. They offer their experience to purchase a property and to guide them in understanding external marketing situations. The consequence, however, is that the binding contract for some buyers gets signed in a compressed period or a short time of negotiation which is not beneficial for the consumers. Thus, the Condominium purchase decision-making process is an essential research work that needs to be conducted. The non-economic and economic behaviors are what this study wishes to explore.

Promotion

As reported by Azadi and Rahimzadeh (2012), traditional marketing advertisement using TV, government allowance, special discounts, coupons, are no longer successful in the internet market because customers can easily acquire the information about the products and prices. Sinha (2000) relates that in the property transaction business, sale managers or developers use promotion to attract customers in view of the expensive prices. The discounts, premium giveaways, free decoration, or low down are dependent on the period of construction of Condominium marketing activities.

Considering the research mentioned, the 4Ps marketing mix theory can be applied to the consumer behavior area, mostly focusing on the consumer's purchase decision study. In addition, many researchers have given more attention to the consumers' product external perception over the internal factors perception such as their motivation, culture factors, knowledge experience and risks. Lim et al, (2002) proposed that the factors affecting foreigner's purchasing decision-making for overseas properties are not only affected by the 4P's marketing mix factors but are also affected by motivations, real estate risks and cultural factors, and self-experience or knowledge level.

2.2.1.2 Purchase Decision-Making Process

1) Purchase decision-making process in general

Purchase decision process is a decision process of customer action when buying a product or service. It can be seen as an assessment form of a cost–benefit analysis.

According to Grabowski (2012), as referenced from (Solomon, 2007), purchase decision-making process is an important model for everyone who makes an action decision, especially special product purchasing. Therefore, the marketers should understand the consumer's behavior or the whole decision-making process rather than only understanding the purchase decision.

As discovered by Plabdaeng (2010), cited from Zhang (2007), there is a traditional and classical theoretical framework for the study of the consumer's purchase decision-making process. This model contains five processes as follows:

- A. Recognizing purchasing need
- B. Making information search
- C. Making alternative choice comparing
- D. Making Purchase decision making
- E. Making Post purchase evaluation

The details of each process are shown below:

Recognizing purchasing need

According to Plabdaeng (2010), mentioned from (Solomon, 2007), the need recognition happens when the customer's current social status significantly changes. Consequently, the customer's affordable price or their ability to pay changes and some desired ideas emerge.

The buyer then perceives that there is a need to be recognized but uncertain of whether it may be simple or complex, big or small.

Making information search

In the information search process, the consumer investigates the needed information for assessing the purchase decision. Plabdaeng (2010); cited from Solomon (2007) that the information search could be divided into two situations:

- a) Internal information search comes from a consumer's previous knowledge, experience, culture background or lifestyle, and a consumer's personal habits preference about the product.

- b) External information search comes from a marketer's dominant source of information for the consumers which may be advertising, friends, company websites and sales managers.

Making alternative choice comparing

At this stage, consumers put more effort on purchase decision-making which means that consumers compare the several products in terms of reputation and available features.

Making Purchase decision-making

After making alternative choice comparisons, the buyers make a final purchase decision whether to buy or not to buy. The property purchase motivation is not the only factor that stimulates the purchase action. The marketing promotion activities also influence their decision-making such as the special discounts and giveaway premiums. Therefore, the related marketing strategy is also integrated into the buyers' purchase decision-making (Sannichwannakul, 2009).

Making Post purchase evaluation

It is the final stage of the purchase decision-making process wherein the consumers buy a product and start to use it. Sannichwannakul (2009) explains that the purchase of a product or service is not the end the purchasing process. After the purchasing transaction, information will be collected as a feedback to the information provider. Through this, the marketing directors and sellers are able to perceive the customer's satisfaction. In addition, it serves as a good opportunity to improve the product and service.

2) Purchase Decision-Making for Property

Wallace, R. K., Benson, H., (1971) discussed the processes in the property purchase decision-making:

- A. Consumers need to change their dwelling which may be for a holiday or to make an investment. Their social status may change when their lifestyle changes just such as having a higher income, more bank savings, or some other external factors changes. Furthermore, the special making activities can change their purchase decision like when a developer provides a big discount

at the end of the year. If they do recognize that they do not need to change their dwelling or purchase a property for investment, they will have to go back to the previous purchase decision-making step otherwise they will move to the next process.

- B. Buyers confirm their purchase motivation. This process includes the affordable price, location area, and identifying the property category such as a Condominium house and with different owning styles such as rent or purchasing.
- C. The alternative choice comparing process is the important process since buyers recognize their purchase need. They search property information like listing price, house type, design and ownership. After the evaluation of their purchase limitations like regulations and affordable prices, they then assess whether they can continue to the next stage.
- D. The purchase decision-making stage: consumers make a final purchase decision about the property that they have gathered information about in the previous process. They make the alternative comparing choice for the property to support their purchase decision-making. They take into account the function, objective return rate that includes project information, the developer reputation, and the location. Also, they evaluate the financial alternative choices such as affordable price, property size, return rate, installments, and continuing. The purchasing risks should be assessed again in this process as well. After evaluating all alternative choices and the relative information file, they can make the final purchase decision.
- E. After purchasing the property, most of the buyers give a feedback or evaluation about the property that they have bought.

3) Factors Affecting the Purchase Decision-Making Process

Marketing mix and purchase decision-making process review

Sanichwannakul, S. (2009) proposed that the marketing and promotion, price and property size, room amount, and facilities will influence the buyer's satisfaction and purchase decision-making.

Product

Major components of the product can be cited as follows: product variety, quality, design, features and facilities of the product, brand, packaging, the size of product, service, guarantees, and returning the product. Maleki (2002), states “product is something that can be offered to the customers for attention, acquisition, or consumption and satisfies some want or need”. (Kotler P., Armstrong, Saunders, & Wong, (1999))

Place

Place means the channel or place to deliver the product to the target customer. (Kotler P., Armstrong, Saunders, & Wong, (1999)) The channel can be virtual or actual. An enterprise or a company can employ the multiple channels such as a combination of the virtual and actual channels .(Keller K .L., (1998))

Price

Price pertains to the money that a customer must pay for their purchase of a product which is the most important factor on a buyer’s alternative choice results.(Kotler P., Armstrong, Saunders, & Wong, 1999.)

Promotion

Sanichwannakul, S. (2009) says that the marketing and promotion, price and property size, room amount, and facilities will influence the buyer’s satisfaction and purchase decision-making.

Apaporn Larwiang(2015) listed the marketing mix as an important affecting factor on Condominium purchase decision-making.

Table 2.2 Marketing Mix important affecting factors on Condominium purchase decision-making based on Apaporn Larwiang (2015)

Marketing mix	Affecting factors on purchase decision-making process
Product	Condominium style, utility area, space, function, enough parking lots and security system such as 24CCTV.
Price	Affordable price, selling price, and low down payment, capacity to pay
Marketing mix	Affecting factors on purchase decision-making process
Place	Information from exhibition and expo, advertising billboard, magazine, printing media, media advertising.
Promotion	Discount, giveaway premium, lucky door, down duration.

Motivation

The force that drives a person to buy and use a good or service is called motivation. Motivation is the force that gives someone to act an action or process. It explains the reasoning why the customers want to purchase the product. The motivation helps buyers in recognizing their purchase need such as for what utilization or what benefits. However, for the people who prefer to enjoy the product, they are more inclined to focus on the pleasure, feeling, comfort, or social status change that the product gives them (Havlena and Holbrook, 1986; Holbrook and Hirschman, 1982). Though, it's more typical to consider the utilization and investment return rate expectation (Srinivasan, 1987).

As the difference between consumer expectations and actual conditions increases, potential intentions are activated. When this potential intention becomes strong enough, they will take the necessary action to try to meet their intentions and will want to understand the specific products that they think can meet their needs. Thus, consumers assess the benefits and confirm the purchase intent. (Goldsmith, 1994)

Risks

In the real estate, risk factors consist of three variables. The first variable is legal framework. In Thailand's general legal framework, the regulations of Thai property prohibit non-Thai citizens from buying land or purchasing a property in Thailand. However, there are various exceptions to the law, as well as methods for foreigners who

want to acquire land or purchase a house or a Condominium unit in Thailand legally (Ratprasatporn & Thienpreecha, 2002). Thai Juristic Person states, “Limited companies with more than 49% of their capital are owned by aliens or more than half of the shareholders are aliens” (The section 97 of Land code, 1954). The second variable is internal political stability. The domestic political and government actions are the important elements to attract foreign investors. The high political stability can invite a high number of foreign investors (Bank of Thailand, 2009). The third variable is the perceived corruption level.

Cultural factors

The researchers have examined reference groups, language barriers, cultural differences, and customer habits mentioned in Lim et al. (2002). Culture is an important dynamic aspect to be taken into consideration by international business entities. To be successful in the international business world, companies must understand the culture of its customers because culture provides an overview of the social framework, social rules, and customer expectations (Barratt, 1989). Lim et al. (2002) comment that culture is an important factor for the real estate business as customers are from different countries and they have different perceptions so then the investors or developers should consider the consequences of different cultural backgrounds as it can influence the investment decision-making.

Table 2.3 Important Factors affecting the Asian property purchase decision-making process based on Lim et al.(2002) and Gibler and Nelson (2003)

Other important factors affecting purchase decision-making process	Key decision points
Motivations	Investment. Retirement, vacation(holiday)
Risks	Regulations, internal political stability, currency exchange rate, economic bubble.
Culture factors	Language barriers, food, culture difference, reference group. personal habits

2.2.2 Knowledge Management Theories

2.2.2.1 Knowledge Management in General

From a view of strategic point, knowledge has been seen as one of the important valuable resources of the organization (James, 2004) and is an advantage for the competition in today's business environment (Erden et al., 2008). Its value is magnified because knowledge is closely related to another important organizational resource in today's market globalization- time. Leonard (1995) mentioned that organizations are viewed as “wellsprings of knowledge”.

There is a debate about the definition of knowledge as the subject of a dedicated branch of philosophy called epistemology (Zelic, 2005, Jakubik, 2007). The most common definition of knowledge is a three-level hierarchy that begins with ‘data’ (i.e. raw facts), which is the top tier, then data is processed and results to ‘information’ (Moteleb and Woodman, 2007), then the information combined with experience and judgement and used in decision-making becomes ‘knowledge’ (Kidwell et al., 2000). Although this classical hierarchy is widely accepted in literature, some authors still debate the relationship between information and knowledge, pointing out that the distinction between them is vague in many contexts (Hicks et al., 2006, Faucher et al., 2008). Aside from identifying knowledge as having the three hierarchy levels: data to information to knowledge, other authors have defined it as a state of mind (Schubert et al., 1998), a process (Zack, 1999), an object (Zack, 1999), a condition of access (McQueen, 1998), or a capability (Carlsson et al., 1996), among other definitions (Chang Lee et al., 2005). Wiig (1999) defines information as the facts and data organized to characterize a particular situation while knowledge, on the other hand, is a set of truths and beliefs, perspectives, and concepts, judgments, and expectations, methodologies, and know-how. Similarly, Nonaka and Takeuchi (1995) say that “Knowledge is true and justified belief”.

According to the literature review, there are various definitions of KM, but one of the simplest and comprehensive definitions is “[a] conscious strategy of getting the right knowledge to the right people at the right time and helping people share and put information into action in ways that strive to improve organizational performance” (O'Dell et al., 1998). Most organizations prefer to manage organization knowledge

through documentation or archiving activities. However, these knowledge management activities were mostly fragmented and tended not to be managed under an organization-wide KM field (Carlsson, 2003).

Knowledge management is different from those conscious systematic activities that aim at knowledge capture, storage, and transfer activities (Bergeron, 2003). The concept of "right knowledge", "right man" and "right time" reveals that the organization needs to determine the knowledge needed among a large amount of information that the organizations create every day (Duffy, 2000). The "right man" refers to the person who should be responsible for the knowledge, and the "right time" as to when and how knowledge should be transferred. The definition above also makes an essential relationship between KM and organizations' corporate strategy. The link which ensures KM is conducted towards improving the organization's performance and making a company's management and employees aware and be able to execute the knowledge management. (Du Plessis, 2007, Kamara et al., 2002). KM contributes in the formula of such strategy due to its key role in decision making; a managerial process is a significantly knowledge intensive process (Holsapple, 2001). Nicolas (2004) identifies three phases of decision making in complex situations - intelligence, conception, and selection- all of which rely on KM processes, namely knowledge capture, knowledge sharing and knowledge utilization. Nonaka and Takeuchi introduced the SECI model (Nonaka & Takeuchi 1996) which has become the cornerstone of knowledge creation and transfer theory.

2.2.2.1 Knowledge Engineering

Knowledge Engineering (KE) refers to all technical, scientific and social aspects involved in building, maintaining and using knowledge-based systems. KE was traditionally viewed as a process of "extracting" or "mining" from the expert's head and transporting it in a computational form to a machine which has turned out to be a crude and rather naive view. Today KE is approached as a modeling activity and as a purposeful abstraction of some part of reality modeling which in effect constructs a good description of only a few aspects and ignoring other aspects.

The research will use the KE common KADs methodology to capture the critical knowledge based on purchase decision-making process model to support Chiang Mai's real estate improvement of marketing performance and development. The KE has been employed as a knowledge elicitation method and tool (H. Eriksson, 1992) such as in the VITAL approach (Shadbolt N, Berners-Lee T, Hall W, 2006) and a collection of elicitation tools like repertory grids ([Gaines and M.L.G. Shaw, 1980], [G.A. Kelly,1955]) are offered for supporting the elicitation of domain knowledge (Epistemics,1995). Common KADS is the core methodology for structuring the knowledge engineering work, and as the research methods to conduct a detailed content analysis of the knowledge-intensive tasks and processes. Hence, the common KADs can be employed in this research.

1) Knowledge Engineering Process

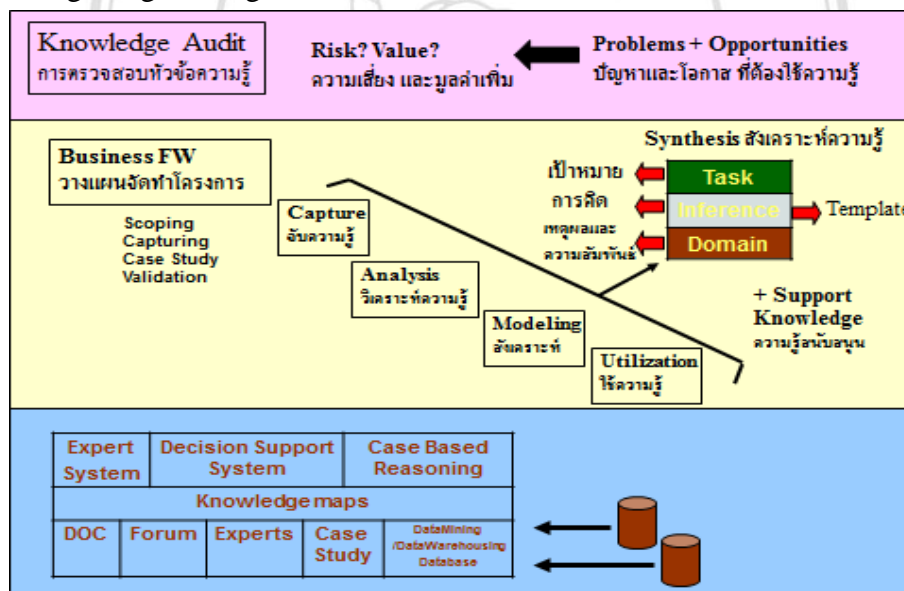


Figure 2.4 Knowledge Engineering Process Dr. Nopasit Chalpitak
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2) Common KADS Methodology

A. Common KADS Terminology

Domain means some area

Domain: a domain is some area of interest such as a property sale.

The subdomain can be split into a number of subdomains such as a sale service standard, property advantage and sale skill.

Task: a task is a part of work that needs to be done by an agent. In this research, the critical task is Condominium purchase decision-making.

Agent: the agent is the person or machine that conducts the task in a certain domain. For example, the task is the Condominium purchase decision and the Condominium buyer is the task agent.

Application: the application is the contest provided by the combination of a domain and a task conducted by one or more agent.

Application domain/task: both two terms are used to refer to the domain and task involved in a certain application.

Knowledge (based) system [KBS]: the knowledge system which provides the basic knowledge for the knowledge users to improve their work effectiveness and survive in the competition.

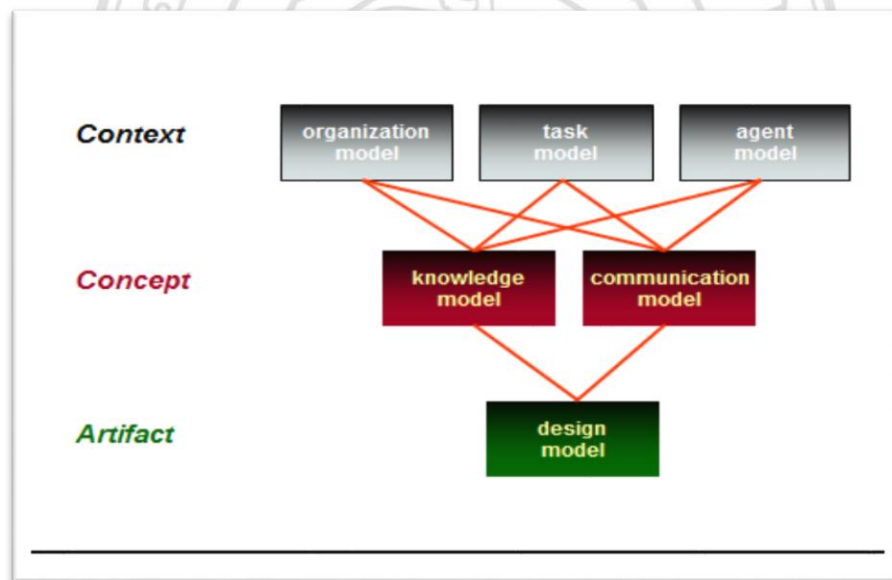


Figure 2.5 Common KADS Model Suite (Schreiber, G. (2000))

B. Common KADS: Knowledge Analysis and Data Structuring

A prominent knowledge engineering approach is KADS and its further development to Common KADS. A basic characteristic of KADS is the construction of a collection of models, where each model captures specific aspects of the KBS to be developed as well as of its environment. In this paper, Common KADS is employed in knowledge capturing for developing a knowledge map for better understanding about the Chinese Condominium buyers' purchase decision-making behavior.

Task knowledge: task knowledge is the knowledge which will be used for the realization of the intention or objective. The inference knowledge is the knowledge about the steps in the solution.

Domain knowledge: Domain knowledge is defined as the realm of knowledge researchers have about their particular field of study (Alexander and Judy 1988; Alexander 1992). Questions of domain knowledge are commonly distinguished from interrelated questions of epistemology, methodology and socio-political affairs (Gregor 2006).

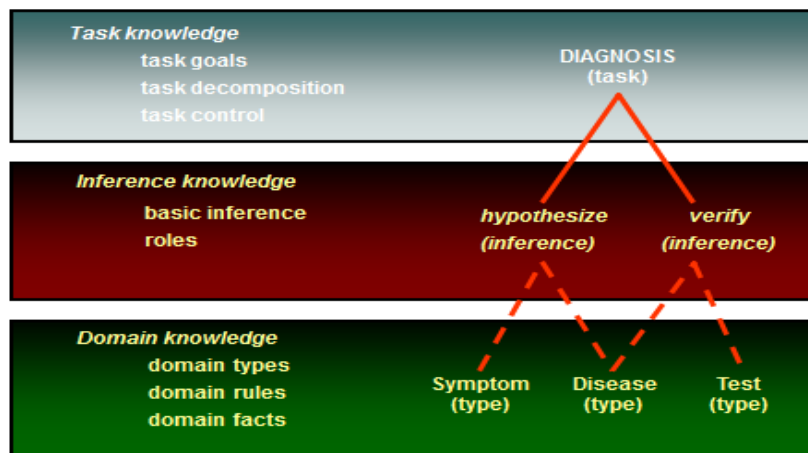


Figure 2.6 Knowledge Model Listed by Dr. Nopasit Chalpitak College of Arts, Media and Technology Chiang Mai University

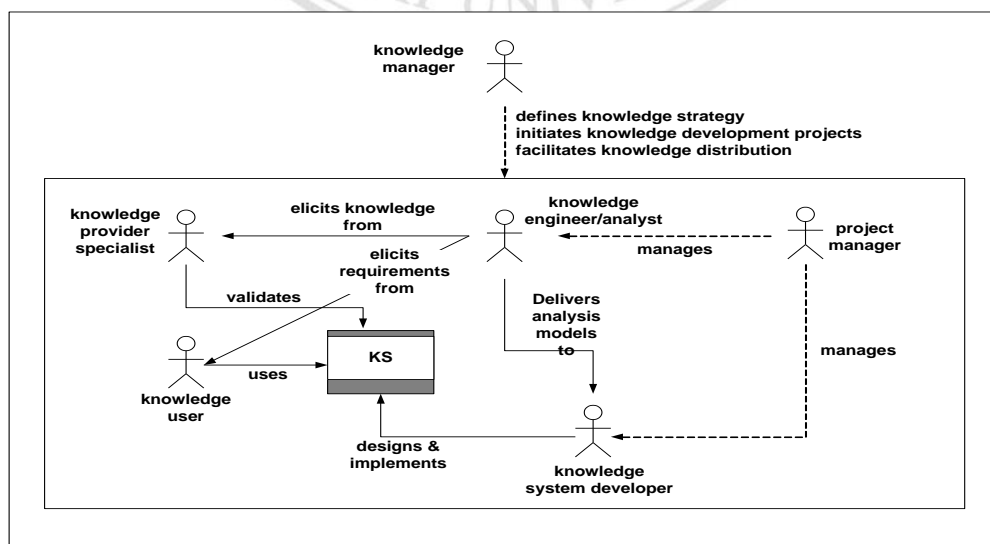


Figure 2.7 KE Roles Listed by Dr. Nopasit Chalpitak College of Arts, Media and Technology Chiang Mai University

1) The Human “owner” of Knowledge in KE Process

- A. Knowledge user: His/her work is often affected by the knowledge.
- B. Knowledge system developer: the knowledge developer has its special characteristics. It is responsible for design and implication.

2) Analysis Template Model in Knowledge Capturing

The assessment template is classified as an analysis task template. A task template forms a common type of reusable combination to confirm or to find the case types based on a series of domain specific norms. This research topic is focused on the knowledge capture in understanding the Chinese Condominium buyers’ purchase decision-making process. The research is based on the decision-making process model to find critical knowledge about the key decision points in each purchase decision-making process which include the affecting factors, preferences, and constraints criteria. Therefore, the assessment template was conducted to form the design of the semi-structured questionnaire in finding out the decision key points or category for a case based on domain-specific norms. The assessment template is shown as follows:

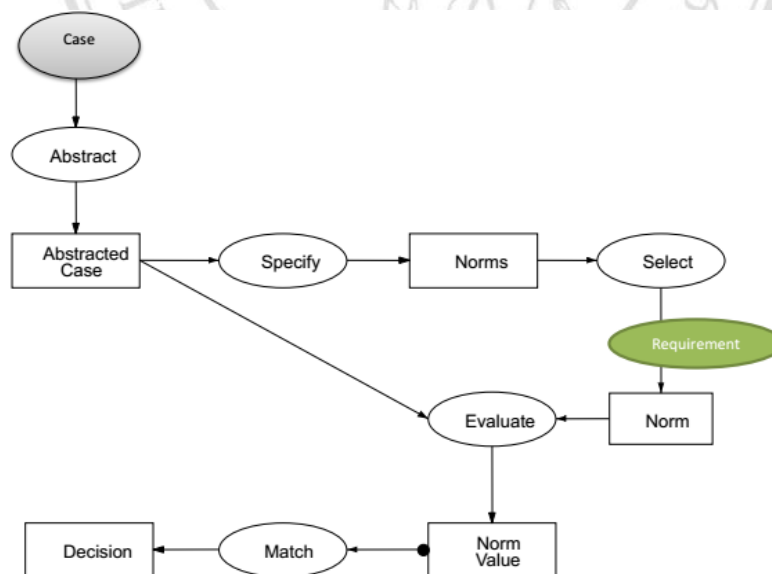


Figure 2.8 Assessment Template Inference Structure

Case: a case that can be assessed. [E.g. Chinese Condominium buyers’ purchase decision-making in Chiang Mai]

Abstracted case: abstracted case (not all cases need an abstracted case), almost always, some of the case data should be translated. For instance, in a housing application, the buyer's age and the household type need be translated. The information that's required to be translated is determined by the data used in the norms. Abstraction is modeled here as an inference that is repeated until no more abstractions can be made. The abstracted features are added to the case. [There is no abstracted case in this research.]

Specific norms: After abstractions, the first step that needs to be taken is to find the norms or criteria that can be used for this case. In most assessment tasks, norms used are at least partially dependent on the case. And the case thus acts as an input role for this reference. An example of a norm in a loan assessment application would be "loan amount match income". [As considered in this paper, the specific norm aims to specify the common norm of Condominium purchase decision-making process.]

Selected norms: From specified norms generated by the previous inference, one norm needs to be selected for evaluation.

3) Knowledge Map

Speel et al. (1999) define knowledge mapping as the process, method, and tool for analyzing knowledge areas in order to discover features or meaning and to visualize these in a comprehensive and a transparent form such as the business-relevant features.

Knowledge map: Knowledge map is a kind of knowledge (both tacit knowledge and explicit knowledge). Knowledge maps use the keywords with navigation type and show the dynamic relationship between different knowledge types. It is part of the knowledge transfer system including content sources and dissemination, integration of knowledge content, knowledge flow and knowledge of the convergence. Its main roles are the following: to help the organization to explore the value of its intellectual assets; to organize of various expert skills into explicit knowledge and then internalized into the organization's knowledge resources; to identify and eliminate the constraints of knowledge flow; to leverage existing intellectual assets.

Knowledge maps typically clearly distinguish the task knowledge, inference knowledge, and domain knowledge; hence the knowledge can be applied in this research to represent the captured knowledge.

2.3 Research Method and Tool Review

Semi-structured interview refers to informal interviews that carry out a broad outline style interview. The method of the interview has the following features. The questions only ask for rough basic requirements, the interviewer can make the necessary adjustments based on the actual situation during the interview, the interviewer and interviewee's mode of time and place have no specific requirements but it depends on the interviewer's flexibility according to the situation. The interview questions are not completely designed in which some questions may need more probing according to the interviewee's answer. And there is no need to ask the questions that the interviewee has already talked about.

The advantage and disadvantage of semi-structured interview

Advantage: The semi-structured interview is less structured for the interview questions. It is adequate to use a core interview objective as the topic guideline to conduct the interview that will make the interviewee share more ideas regarding the topic that will explicit more knowledge than the research has planned. It also gives more opportunity for the interviewees to share their opinions.

Disadvantage: Because it's a semi-structured interview, the interviewers need to be skilled enough to conduct the interview based on the interviewees' answers and still be able to expand on the topics.

Semi-structured interviews are less limited for respondents because they encourage two-way communication and respondents can ask questions too. In this way, the interviewer can expand the question by confirming the information already provided by the interviewee and give the interviewee a sufficient opportunity to share information on the subject to a certain extent. The information obtained from the semi-structured interview not only provides the answers needed by the interviewer but also the reason for the answer and some information. It is easier to explore the topic of the interview when the interviewer and the interviewee trust each other.

2.3.1 Snowballing Sample Method

Snow sampling is generally used if the sampling crowd is scarce or the sampling population is difficult to access and cannot be extracted by the normal random sampling method. For example, if you are studying China's real estate customer's satisfaction in Bangkok, Thailand, you will find that through information collection it is difficult to reach sample populations using random sampling due to incomplete statistics from the land bureau. In this case, it is very difficult and unreasonable to use random sampling to determine the sample. In this case, it is appropriate to use a snowflake sampling method to introduce other potential samples through a sample.

In other words, the snowball sampling method is based on the preliminary study of the object recommendation and introduction to produce the overall sample of the study. Therefore, this ball approach is applied to recruit sample populations.

In addition, snowball sampling is used most frequently in business studies, focusing on specific industries or companies, and subject surveys that often involve customers or employees who are involved in the customer or company employee. They need to provide data for the research, if you have a sample contact, the other samples of the contact can be provided by the existing sample contact and help to contact other samples for doing the research.

This snowballing sample method involves natural data sources to introduce this snowballing method; members of the sample group are recruited via chain referral sample method.

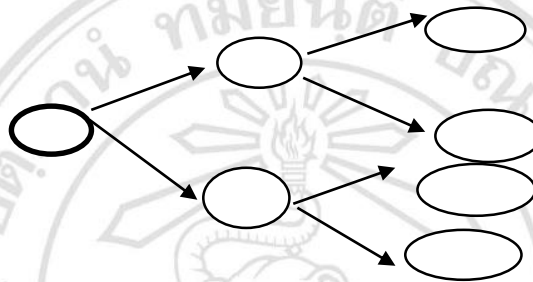
Also, snowball sampling is the most popular in business studies focusing on a specific industry or a company that recommends basic data collection from the customers or employees. Once you have the contact details of one sample, she/he can help you to contact other samples for the study by providing contact details. In general, there are three types of snowball samplings are as follows:

- 1) Linear snowball sampling method is a sampling based on a research sample to start, that is to say, the first object can only provide a potential sample. After this potential sample has been added to a sample group, the researcher only needs to provide

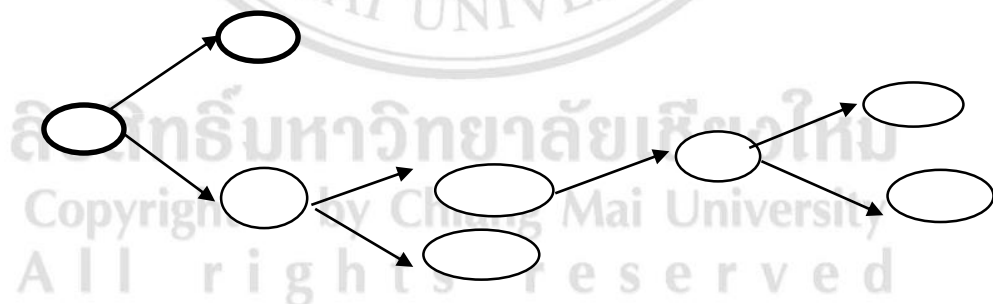
a new potential sample. This mode has to continue until the sample is sampled. The model is illustrated as follows:



2) Exponential Non-Discriminative snowball sampling method. This involves samples that have been added to provide multiple potential samples. Each new sample provides a new potential sample until a sufficient number of samples are collected. The model is shown below:



3) Exponential Discriminative snowball sampling method. Based on the purpose and objectives of the study, a number of potential samples are identified before finally selecting a potential sample. The sample continues to recommend other samples but only up to the point where enough sample is collected. The model is portrayed as follows:



2.4 Related Research

Suwanpimon, C, & Theerabanchorn, N. (2010) conducted the research “Factors influencing Swedish consumer decisions to buy a holiday home in Thailand” which has undertaken the qualitative and quantitative mixed method. Due to the difficulty in reaching the population, the researchers used questionnaires administered by email and social media. The research found that the 4 main affecting factors on foreign holiday home buyers’ purchase decision-making in Thailand are the internal political stability,

legal frameworks such as regulations, policies, levels of corruption, and the price of real estate houses and cultural differences such as language barriers. Cheng Lim, L., Adair, A., & McGreal, S. (2002) performed a research by using face-to-face interview combined with a social media interview. This research reveals that investors from different countries and investors from the Southeast Asian market alike reckon opportunities and perceive risks which include the four aforementioned main factors. Both research findings show that the risk perception of internal political, legal framework and culture difference in different countries are similar with the people who have already bought a Condominium or those want to purchase a Condominium in Thailand.

Koklic, M. K, & Vida, I. (2009) conducted a research entitled “A Strategic Household Purchase: Consumer House Buying Behavior” which aims to find a knowledge concept to support the customer house purchase decision-making to avoid a blind choice decision. The researchers have chosen the qualitative research method and the in-depth interview instrument by face-to-face interview and social media interview. This research proposed that in addition to the marketing mix factor, the personal habits and lifestyle also affect the purchase decision such as their cultural background, life experiences, personal needs and feeling for the property. Moreover, Chatpramote, A. (2016) conducted a research “A Study of Factor Influencing Customer's Decisions in Buying High-End Condominium in Bangkok among The Address (Sathorn), Keyne (Thonglor) and Noble Refine (Sukhumvit), Thailand.” The research methodology was based on the purchase decision-making process model and marketing mix 4Ps design in which questionnaire was used as a data collection instrument. The results reveal that the price and place are the affecting factors on the decision making, meanwhile, product, promotion, social and economics are rejected from the research questionnaire test.

According to the related research review, there are some researchers who have conducted some research on the house and Condominium purchase decision-making behavior perception and knowledge capture such as Suwanpimon, C, & Theerabanchorn, N. (2010), Cheng Lim, L., Adair, A., & McGreal, S. (2002). Koklic, M. K, & Vida, I. (2009). Chatpramote, A. (2016). Those researchers related research findings can give a reference for my research such as the affecting factors on the purchase decision-making.

As for their research method, most researchers have preferred to use qualitative and quantitative research method which aims to make the research findings more believable. But the limitation, however, is that most of them just used the questionnaires as the data collection instrument. S.Ackroyd and J. A. Hughes, 1981 mentioned that a mass of information can be collected from a large number of people in a relatively cost-effective way within a short time, but this sub-approach is not sufficient to understand due to some subjective information - such as motivation, behavior, feeling. Koklic, M. K., & Vida, I. (2009) and Cheng Lim, L., Adair, A., & McGreal, S. (2002) used the in-depth interview for data collection even though some interviewees were interviewed through mobile phones because it was difficult to interview all interviewees face-to-face. The in-depth interview can collect more detailed information and can open the opportunity to observe the interviewees' feelings and emotions through their response in the interview.

In spite of most research projects focusing on the Condominium purchase decision-making process, those mostly give emphasis on the marketing mix factors or other external factors only. Also, there are a few research projects that are about foreign Condominium purchase decision-making and those do not combine both marketing mix and other affecting factors that include cultural factors and risks which make the research results limited. On the other hand, the current research gives attention to the study of what factors affect the consumers' purchase decision-making and the reasons behind these factors. Hence, this research project concentrates on both the 4Ps marketing mix and the other affecting factors such as cultural factors, risks, and self-experience/ knowledge. The knowledge engineering Common KADs methodology has been utilized to conduct the knowledge management activities that aim to capture, analyze and validate the critical knowledge needed in understanding the Chinese buyers' purchase decision-making process to make an effective marketing decision.