

Chapter 2 Literature Reviews

2.1 Domain Knowledge Coverage

As mentioned in the chapter 1 referring to the introduction of modern management, the fundamental domain knowledge involved in this study includes:

1. Competitive Advantage Related Domains
2. Alternative Economic Framework Domains
3. Knowledge Management Theory in Used Domains
4. Cognitive Decision Making Domains

As Competitive Advantage Conceptual Model evolved over the years, it has become the core element of many national economic developments. However, it is still in doubt about whether the Competitive Advantage Economic Model by itself would be sufficient to drive such a movement. It is, therefore, in this study to include other works which suggested that may related to this.

This study will focus on the signified different of the vast diversified domain works done in the areas related to the Competitive Advantage and other social and economic impact studies.

2.2 Competitive Advantage Related Domains

The study in this research is intent to asset the current works completed so far on this matter to evaluate the pros and cons as well as the improvement potential particularly when applied to empirical case study pertaining to the local environment.

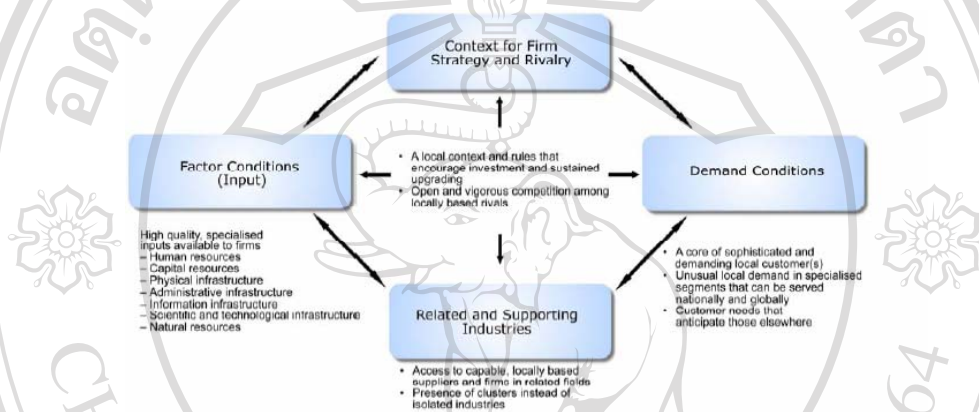
2.2.1 Principle Competitive Advantage Domain Knowledge

2.2.1.1 Domain Knowledge

Competitive Advantage is the fundamental theory of this study. And, the domain knowledge in this area initiated by Dr. Michael Porter. His was first published '*Competitive Advantage of Nations*' book in 90. At that time, It was the new industrialization economic theory emphasized on the integration between the micro and macro strategies for a nation in order to withstanding the global competition. The "*Competitive Advantage*" domain knowledge covers the knowledge required for a nation to create and maintain the value creation for its enterprises and focus on the prosperity perspectives for its people [11] instead of the "*comparative advantage*" which at the end may be vanished because it relies

on just the temporary advantage edges i.e. the weak exchange rates, low interest rates, tax incentive policies, the abandon and cheap labor or natural resources

According to Porter's four-year research on that attributes for the competitive advantage in ten leading trading nations, the studies had shown many remarkable examples of the niche industries with the right valuable proposition to specific target market demands from the aggregation of a large number of firms where by their own individual, they would not be able to stand up for the competition. Dr. Porter has called this a '*cluster*'. By definition, a cluster is a geographically proximate group of companies and associated institutions in a particular field linked by commonalities and complementarities [12]. The research results have started off the quest for solutions around the world.



Figures 2.1 Diamond Model
Source: Porter, 1990

By definition, the theories of competitive advantage, according to Dr. Porter, the economic model of "**Competitiveness**" and "**Cluster**" based on diamond model (Figures 2.1) which it represents a relationship and the interaction of the strategy at the national level and the firm level into four driving factors as follows:

1. Factor conditions (input)
2. Context for firm strategy and rivalry
3. Related and supporting industries
4. Demand conditions [15]

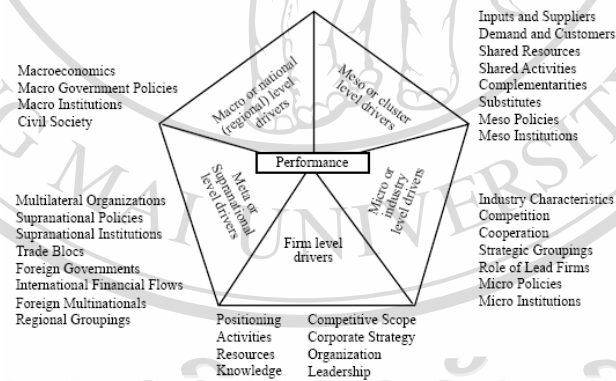
2.2.1.2 Enhancing the Competitiveness Framework

Even if the diamond model was an extraordinary economic success research by Dr. Porter in '90, and it has been cited over 30 reviews and argued over the past number of years [51]. There are still a number of improvements needed beyond the limitation of economic contribution factors. Even if there are a large number of works have been done using this conceptual domain knowledge as the principle in economic and business driven strategies. It is, however, limited largely in the area of business competition. The attempt within this research suggested otherwise.

2.2.2 Advanced Competitiveness Domain Knowledge

2.2.2.1 Domain Knowledge

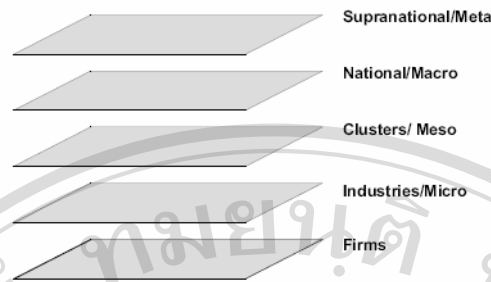
After the study conducted by Dr. Porter, his student and one of the co-researchers in the competitiveness, Dr. Michael J. Enright, has made a considerable improvement on the diamond model. According to his further studies, Dr. Enright, he has pointed out from his study that competitiveness is not just the micro-macro economic factors but more importantly the most important missing elements of the model was the micro-macro economic integration. The diamond model has been challenged by Dr. Enright that there are still a few missing pieces. He illustrated in his study that Porter's Diamond model only addresses competitiveness at the micro and macro economic ingredient. But, it is rather missing more important factor which is the integration among them. As he also pointed out in his MESO model (Figures 2.2), the layers in between macro-micro economic are the most contributing factors to competitiveness. Therefore, MESO model is not just a factor definition modeling. It is, however, the competitiveness analytical model evaluating the micro, macro, layers in between and above and interaction among them. From the result of his study, Dr. Enright has pointed out that these certain weak points would become more appearing when the financial or business crisis in which many countries has been experiences, particularly in Asia nowadays [16] similarly to the cluster development in distress and unfortunate region [54].



Figures 2.2 MESO Model

Source: Enright, 1998

According to the MESO model proposed by Dr. Enright, the MESO cluster model (Figures 2.2) consists of 5 analysis layer (Figures 2.3): Meta Layer (Supranational), Macro Layer (National), Meso Layer (Clusters), Micro Layer (Industries), Firms Layer [16]



Figures 2.3 Business Layers
Source: Enright,1998

Dr. Enright's theory pointed out the significant improvement of Dr. Porter's Diamond Model. It suggested that element factors by themselves will not be enough there must be integration elements and process between them particularly the integration between economic levels and each level has influencing performance at every level. The analysis of competitiveness must be completed to make sure that the strategist shall not be developed for the firms or for the national economies only. The interactions between them must be evaluated as a significant part of the analysis as well.

2.2.2.2 New Alternative for MESO Model

The MESO model was referenced by Dr. Enright as a new version of competitiveness model (V2.0). It is an improvement of Diamond competitiveness model (V1.0). He also suggested that his discovery (V2.0 competitiveness model) can be improved even further. According to his research in the recent years [47], he also elaborate that the new version (V3.0 or newer) of competitiveness model must be even more integration to other dynamic factors particularly the local implication factors. As the result, this study is working on the concept of creating new methods to even further expand the fundamental domain knowledge in competitiveness, contributing factors and the integration among these factors or even further analyzed to generalize the model onto the higher degree.

2.2.3 Competitiveness Implementation Domain Knowledge

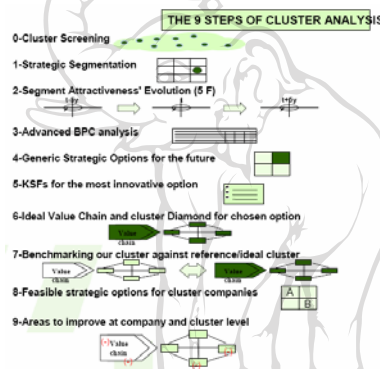
Domain Knowledge Overview

Even if the suggested Diamond and MESO conceptual models are the essential fundamental of competitiveness, cluster implementation using these conceptual framework are drastically different. We have admitted that these models are merely the theoretical referential models. There are also need another set of implementation frameworks. The frameworks that taken competitiveness conceptual models to cluster in actions. These implementation frameworks are as important as the conceptual model themselves as mentioned by Dr. Enright in his recent speech in Thailand in 2006 [47] that a few year ago there are only a few

countries in world know about cluster and competitiveness but in the recent year there are only a few countries in world left which does not have any cluster initiatives. The quest for the appropriate implementation framework leads to worldwide research for cluster implementation framework to support the underline diamond and MESO theoretical models. The following is the details of the “well” know cluster implementation frameworks.

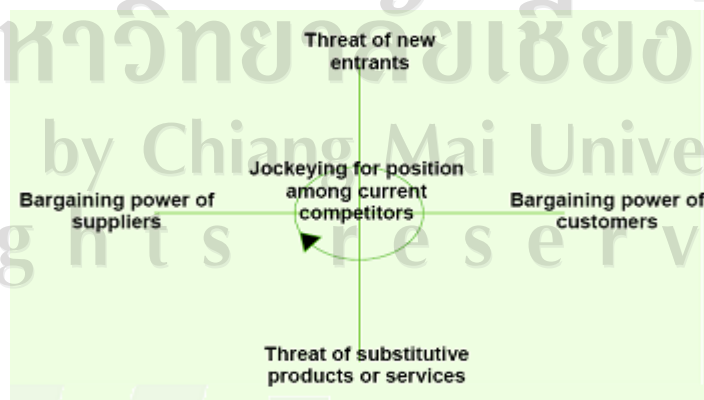
2.2.3.1 9-Step Implementation Model

9-Step cluster analysis model (Figures 2.4) by Mr. Emiliano Duch, Competitiveness, Inc. conducted in Bangkok, Thailand in September, 2005 [45] to help Thai Cluster Analysis. This model separated cluster analysis into 9 distinct steps and each step interdependent on each other in order to drive and mobilize the aggregation of business firms collaborating with government supports and institutions facilitations.



Figures 2.4 9 Step Model
Source: Duch, 2005

This model is derived from the basic fundamental market positioning analysis strategies called 5 Force model (Figures 2.5) developed by Dr. Porter [34] in the early ‘90. This model illustrated how the business entities should position themselves in order to survey business competition.



Figures 2.5 Five Force Model
Source: Duch, 2005

2.2.3.2 Additional Consideration for 9-Step Model

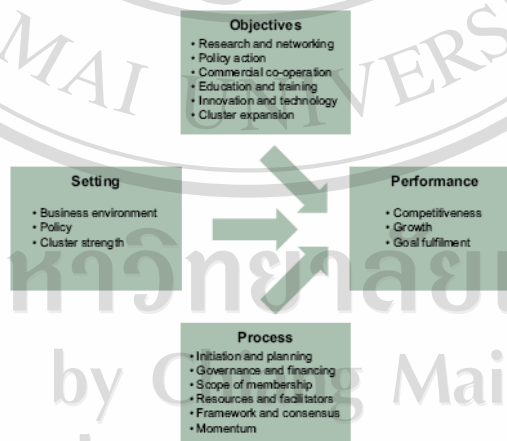
This model appeared to work well for most of the cases in industrial development similar to the discovery of competitiveness strategy studies started off in the '90 on the 10 leading trading economic zones since it focuses on solely on the business competitiveness and industrialization. It helps cluster focus on improving their advanced skill sets to create value add proposition in order to help them competing with the raising mass industrial revolution [12]. This addressed largely for business and industries in global positioning context. However, this may not apply to some regions and areas particularly the developing countries in which business and industries development are not the solely issues needed to be resolved.

2.2.3.3 Cluster Initiative Performance Model (CIPM)

The other well known implementation framework is the **Cluster Initiative Performance Model (CIPM)**. This framework was developed by the collaboration of various researchers and institutes supported by European Union Commissioner. The model was published in the green book in 2004 [14].

Cluster Initiative Performance Model (CIPM) (Figures 2.6) is based on four components:

1. The social, political and economic setting within the nation
2. The objectives of the cluster initiative (CI)
3. The process by which the cluster develops
4. The performance of the CI [17]



Figures 2.6 CIPM Model
Source: Solvell, 2003

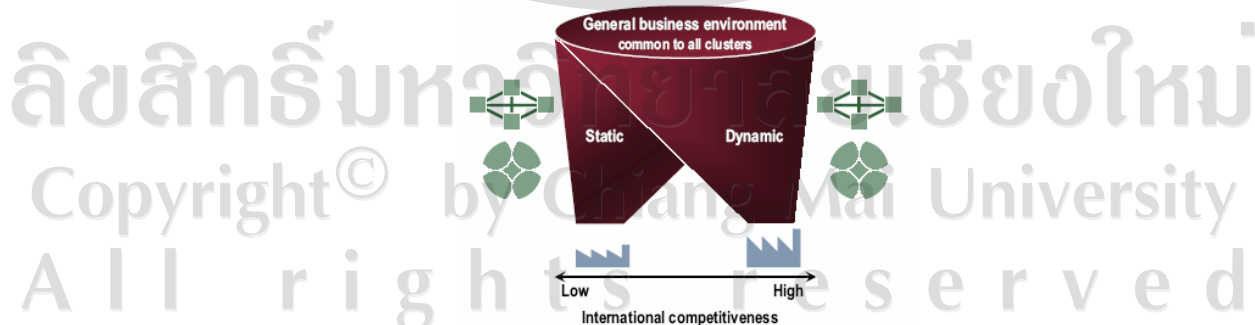
This implementation model suggested that without clear objectives, process and performance measurement within an appropriate environment support. Cluster initiatives will be difficult to succeed.

2.2.3.4 Additional Consideration for CPIM Methodology

Even if CIPM model has the well defined the important factors using process, measurement and support environment as the controlling scope of work, there are more critical success factors needed to be considered to ensure the cluster outcome. According to Ketels' study [17], he further argued that there are some areas which CIPM could be enhanced, for example, the important of CI attributes (research/ networking, policy lobbying, commercial cooperation, education/ training, innovation/technology, and investment attraction). Ketels also suggested investigating the performance effecting factors and their interaction rather than the factors by themselves. Ketels also emphasized on the interaction intensity can be measured right from the cluster formation and every level there after. His study concurred with the result of the Dr. Enright study on the interactions. And this also pointed out that the cluster influencing factors are complex and almost infinite.

2.3. New Paradigm of Competitiveness Model

From these studies and compounding events of economic development using cluster mechanism as one of predominant tools over the yeas in many countries around the world since the diamond model published in the early '90, it is suggested that it may be the time that this tool should upgraded into another level of complexity [55]. And the focus of cluster development, now, should further emphasis on the integration approach which focused on the investigation on the Cluster Initiative (CI) attributes and the interaction among them. The newer model should be the result enhanced from that contribution. The suggestion of "dynamic engine" (Figures 2.7) framework was initially point out in the green book [14] as a part of the further cluster policies studies. This engine should be a new model combining the necessary dynamic attributes and consolidating with the fundamental competitiveness and cluster components.



Figures 2.7 Dynamic Engine
Source: Solvell, 2003

More over, dynamic engine framework should also cover a broader spectrum of other considerations rather than just the business driven activities [56]. It is

quite clear from various studies mentioned earlier that competitiveness development and cluster analysis are business driven tools to mainly assist strategic development at firm, industrial, or even higher of business layers to improve their business activities.

In addition, competitiveness has been utilized as a quest of the niche industries to counter balance with the mass industrial evolution. This counter measure expanding from the specific areas to the region, country and perhaps the entire continents i.e. the quest for China+3 [63] economic development strategies as mentioned by Dr. Enright during his speech in The Competitiveness Institute (TCI) seminar in Hong Kong in May, 2005. He also indicated that the new version of competitiveness (Version 3.0) [46] should also consider the following: Integration of approaches, Understand different levels of aggregation, a new view of clusters, Focus on market failures [47], more importantly, the tailoring to the local context. These factors should also be considered as part of the dynamic engine framework.

Since the recent on-going studies on competitiveness are focusing the integration and the new research studies in the recent years [57] are focusing on the important of local context. Therefore, the on-going dynamic model studies should also consolidate the implication of the local elements of study along with the above criteria mentioned above. This dynamic model should also integrate the local significant attributes as part of the engine in addition to the known attributes, as mentioned early on Ketels study, i.e. research and innovation, networking, policy lobbying, commercial cooperation, technology, and investment attraction and etc. Therefore, the dynamic engine can separated their direct cluster attributes into the hard-side which is the theoretical known attributes mentioned earlier in parallel with the implied soft-side attributes which includes the local significant elements, social implication of the competitive development and etc. And, at least these attributes should also be considered as the basic the equation of the new paradigm of competitiveness engine.

As the conclusion after the gathering domain knowledge in the competitiveness areas mentioned above, this study discovered that the current version of competitiveness is still missing local context in the equation. It is confirmed that the early cluster version of competitiveness (Version1.0 and 2.0) as mentioned by Dr. Enright in 2006 [48], they are focus on the economic and business strategic developments. However, the national competition challenges under globalization, particularly for the developing countries and SME [69], are far more complicated than just the economic and industrial development issues [70]. The implication of localization among few other issues should be concerned unless they are able to reconcile with local economic and social development. Indigenous is as important as the innovation in the local contents [58]. The globalization competitiveness and the well being of local community and must be coexists and it must be flourish side-by-side as recommended in many studies mentioned above.

2.4 Integration with the Other Economic Domains

In addition to the discovery in this study that competitiveness must be further enhance. The consideration of other economic domains other than competitiveness model is proposed in order to balance between the economic and social to develop an enhanced “cooperative economy” [71]. The following is the social domains toward the economic development.

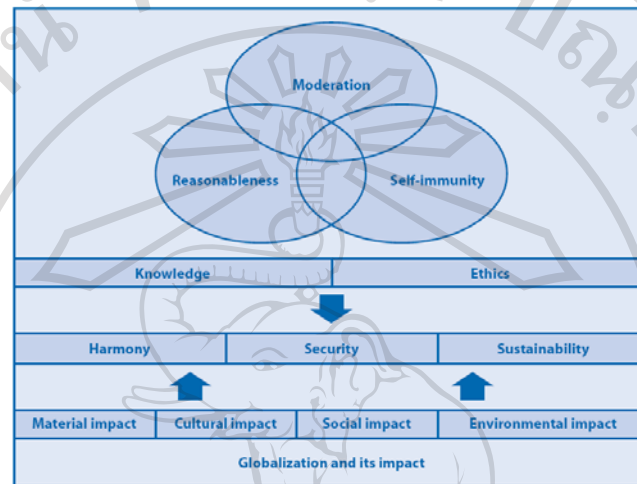
2.4.1 Sufficiency Economy

Sufficiency Economy is a new theory. It can be classified as “social economy” [38]. By definition “social economy” is a conceptual framework that allowed local community to searching for economic opportunities, organization of community business corporations, training, and provision of supportive aftercare services. The three key components of the local community economic regeneration for social economy are: finance, technology, and learning [38].

As many studies have been shown, the local resilient of globalization is quite an important factor of cluster development particularly for the developing countries, using Thailand as an example. Thailand was considered as the early success of the developing countries in industrial revolution in early 80’ – 90’ for past few decades [36]. On the contrary, Thailand is still trying to get across the boundary of the developing country up till now. The on-going movement to get across is due to various factors. But, there are at least 4 major evident shown by UNDP studies in 2007. The first three are quite well-known for majority of the developing countries. They are growing inequality, negative environmental impacts and breakdowns in the family and community. The fourth is – a growing malaise over loss of control over life and future [36] particularly from the outsiders and the “front-row-seat” adoption of the globalization. Inequality, in theory and observation suggested that in developing countries incomes will initially become more unequal, but later this trend will reset back to its’ equilibrium. Yet in reality for the “endlessly” developing countries using Thailand as the test case, over a span of 40 years, inequality in Thailand has relentlessly gotten worse [36]. In the issues of Environment, Thailand went from being one of the most resource-abundant areas of the planet to being resource constrained over the space of one generation [36] only a few decades ago. This is a quite vivid evident for the emerging developing countries to be learning from, today. As part of an equation to the problems and solutions, Thailand has proposed the economic model to solve these problems and hopefully to contribute this model to the rest of the “on-going” developing countries. Thailand has proposed the “sufficiency economy” [36] by the King Bhumipol himself. It is an economic wisdom framework that combines the “social economy”, competitiveness strategy, Buddhism and a few other wisdoms in order to create the “right-size economy” to cope with the globalization from the view of developing countries in this case, using Thailand as the test case.

According to the 10th national social and economic development plan of Thailand proposed in 2007 [37], the “sufficiency economy” is an alternative economic framework to accelerate Thailand national independence based on a few

main key success factors i.e. indigenous, knowledge and rational. The right-sized “sufficiency economy” (Figures 2.8) economic model consists of 3 majors components and 2 conditions: Moderation, Reasonableness, Self-Immunity, Knowledge and Ethics. More importantly, this framework concurred with other studies and research mentioned earlier in this paper that learning and adapting to create local knowledge and indigenous is a part of the solutions for the developing of the national competitiveness.



Figures 2.8 Sufficiency Economy
Source: Baker,2007

The right-sized “sufficiency economy” is the knowledge wisdom [63] [as well as economic model due to the fact that strategic decision making based on the judgment wisdom which not only obtain an understanding of the complexity of a situation, but also the ability to make sense and simplify so that action can be taken. This wisdom model is also concurred with the study of many other studies i.e. the study of knowledge and wisdom and etc. [39]. In many studies, it indicated that judgment wisdom should also include the selection and use of specific knowledge for a specific context which is the ability to effectively choose and apply the appropriate knowledge in a given situation. It is the concept of how to makes best use of the knowledge in action-oriented situation [59]. It is given that knowledge is essential and mandatory, for competitiveness in this case. However, wisdom must also be a profound fundamental of the development underneath of the knowledge [60]. Since knowledge can only illustrated how things can be done but whether or not things can be done, or ought to be done should be based upon the judgment and even more importantly the judgment wisdom [61].

Even though, innovation both for products and processes are one of the fundamental criteria for competitive edge as mentioned in Dr. Porter’s studies in the early ’90 [12]. Many countries in particularly the developing countries as well as some regions of USA i.e. a growing urban underclass are experiencing the imbalance impacts of a rapidly mutating knowledge economy. Economic growth without employment and distortion on the income distribution which largely concentration of income on the shrinking upper level of the population appears to

be the result of the emerging knowledge-intensive development in some areas of the developed countries especially the USA [28].

In addition to the example of social implication of competitiveness in Thailand, there are also some case studies in different part of the world with similar agenda base on the local context. The following are a few case studies base on the issues.

2.4.2 Canadian Social Economy

Similar to Thai Sufficiency Economy, according to the study of social enterprise previously done in Canada by Quarter in 1992 [38], this includes economic activities intended to counteract community decline and solve problems of unemployment, as opposed to conventional economic thinking about rational-actor profit-maximizing behavior. In his book *Canada's Social Economy* (1992), Quarter provides the most systematic treatment available of the Canadian socially directed economy base on the concept of social enterprises. Quarter describes innovative cases such as the Local Community Service Centers in Quebec which are non-profit community-owned corporations that delivered health care and social services.

2.4.3 Mondragon Social Enterprise

In addition to the case study in Canada, the most noticeable case of the social economy is Spanish "Social Enterprise". The famous Spanish case study is the Mondragon Corporation in Northern Spain [40]. This billion dollar social economic initiative is employee-owned. It employs over 25,000 workers and is made up of four main divisions: Financial, Industrial, Distribution and Corporate. It has been successfully absorbed the impact of local community from many international economic forces by building the linkages between innovation system actors and the clusters chains.

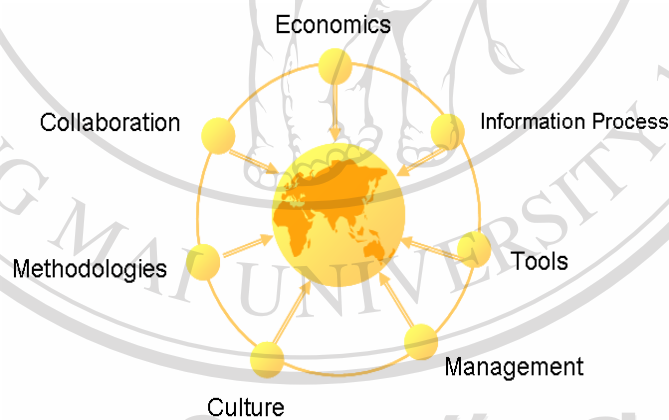
2.5 The Requirement to the Consolidation of Competitiveness and Social Economy

As the result, this study will need to consolidate the competitiveness develop with social economy in order to support both global and local context in order to recreate the dynamic competitiveness engine expanding from the suggestion by Ketels, Dr. Enright's and other experts in their studies. As the result of the separation of the contributing factor for competitiveness into the static attributes, hard-sided and the soft-sided dynamic attributes for cluster development, the dynamic soft-sided attributes are far more complex and outnumber of the static attributes. The argument is supported by the competitiveness measurement model.

2.5.1 The Competitiveness Measurement Requirement

Competitive Advantage of the Nation can be measurement and ranked. According to World Economic Forum (WEF) [52], Competitiveness consists of 5 areas i.e. economic performance, government efficiency, business efficiency and infrastructure. These measurement criteria are broken down further into around 50 topics. And each topic can be scored. Every year, WEF come out with the countries' competitiveness level. Even though, there are some arguments about how these categories and their subtopics are selected and weighted [53] the static contributing factors are very small when compare to the WEF scoring system [64].

Now, if considering the economic implication of competitiveness the measurement is wider than the competitiveness measurement. Considering just one of the well known measurements, the measurement evaluates economic impact from creativity. World Bank has been developing assessment model which can be used online to measure the dependency of knowledge base economy. World Bank 's Knowledge Assessment Model [26] (Figures 2.9) classified the measurement into four Knowledge Economy (KE) pillars: Economic Incentive and institutional Regime, Education , Innovation, Information Communications & Technology and Knowledge Maturity Model [25] which consists of seven measurement: Economics, Information Process, Tools, Management, Culture, Methodologies, Collaboration [25]



Figures 2.9 Knowledge Assessment Model

Source: European Commission, 2005

This measurement has also pointed out that the soft-side dynamic attributes of competitiveness is far more complicate than the known attributes in the equation. The studies in the recent years are working toward the new paradigm of collaboration. The shifting significant researching in the multidiscipline areas involves i.e. Knowledge Management, Competitiveness and etc. One of the examples is the working collaboration between Japanese and American academic institutes leading by famous professors, Dr. Porter, Dr. Hirotaka and associate [65]. In their book, it is point out that government stop trying to manage the competitive process and start providing a dynamic context for it [41].

Nevertheless, these studies are still very much knowledge management education. It is trying to educate the principle of the fundamental knowledge management school of thought i.e. Nonaka's SECI and Argyris's Double Learning Frameworks to the competitiveness community in general to consider an alternative way of thinking about the competitiveness. The following is the knowledge management domains that may be collaborated with Competitiveness theories.

2.5.2 Knowledge Management Domains

2.5.2.1 Knowledge Creating Company

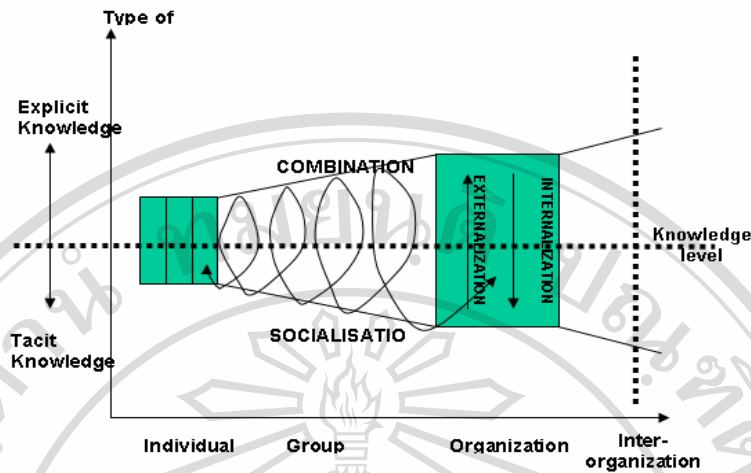
Eastern Philosophy knowledge management school of thought, Nonaka's Knowledge-Creating Company Concepts [28] provide a dynamic set of management theories which enable the continuous innovation, create new knowledge and disseminate them across the entire organization. According to Nonaka's SECI model (Figures 2.10), it consists of four types of interactions in the organization knowledge: socialization, externalization, combination and internalization (SECI). It demonstrates that organization's knowledge development can be used to apply for cluster development on which Individual's tacit knowledge can be transformed into explicit knowledge which is formal and systematic and easy to communicate and share.



Figures 2.10 SECI Model

Source: Nonaka, 1995

And according to this theory, dynamic knowledge can be developed and disseminated in spiral approach (Figures 2.11) in which it can be implicit and explicit sharing across entire cluster via socialization. In addition, Socialization techniques can be used quite well in cluster's mobilization which is one of the fundamental processes in cluster develop framework according to cluster development methodology [28].



Figures 2.11 Spiral Knowledge Exchange
Source: Nonaka, 1995

2.5.2.2 SECI Contribution Towards New Competitiveness Model

Innovation and creativity can be mutually created among cluster participation. Using the SECI model in the cluster initiatives can enhance the cluster mobility even further. Hence, Innovation and creativity are one of the vital components of cluster development referring to innovation system in Nordic & Baltic Regions as an example [66].

2.5.2.3 Double Loop Learning

Another Knowledge Management School of thought is in the area of Learning Organization. According to Argyris and Schon studies on the learning method, the normal learning method or single-loop learning is working with the concept of learning by responding to changes in the environment without changing the core set of organizational norms, but on the contrary double-loop learning (Figures 2.12) is responding to changes in the environment by changing the core set of organizational norms and assumptions [42].



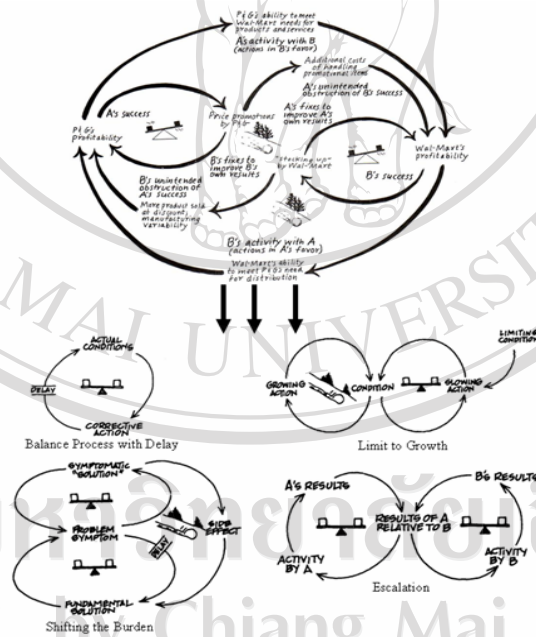
Figures 2.12 Double Loop Learning
Source: Argyris, 1978

2.5.2.4 Double Loop Learning Contribution Towards New Competitiveness Model

Double-loop learning can be used as a tool to help the cluster development participants to rethink and repositioning by changing the control attributes and frameworks. As suggested by double-loop learning, you can not expect different outcome by doing exactly the same. Cluster initiative is the process that requires out of the box thinking. By learning to do so can help cluster created new innovation, new strategies and etc.

2.5.2.5 System Dynamic

In the fifth Discipline developed by Dr. Peter Senge [44], System dynamics (Figures 2.13) is one of the systematic management concepts. This study involves with the complex systems, including such human systems as families, organizations, cities, and nations. Without breaking the system into manageable subsystem, system and analyze the relationships between members will be infinite complexity. Every subsystem and their components in the system dynamic are always interconnected, and that they are never disconnected from the interconnectedness.



Figures 2.13 System Dynamic

Source: Senge, 1990

The system dynamic separated into the following:

1. Balance Process with Delay
2. Limit to Growth
3. Shifting the Burden
4. Escalation

2.5.2.6 System Thinking Contribution Towards NewCompetitiveness Model

The key concept in systems thinking for competitiveness development is the used of the model as a tool for developmental process to handle complexity in an intuitive domain. At each level the system started with a degree of complexity, just within the bounds of the human conscious ability or the normal awareness to grasp and solve the problem but our normal awareness only handles a limited degree of complexity. Therefore, in order to solve the problem cluster participant needs to learn to deal with incredibly complex tasks. The process is analogous to how to deal with complexity generally. It also suggests that human mind can deal with complexity much better than our normal, self-conscious, waking awareness.

2.5.2.7 Common KADS

Common KADS is the Knowledge Engineering Framework. It is now the de facto standard for European Knowledge Analysis. The framework is not only defines the mechanism necessary for Knowledge Analysis it is also provide thirteen type of analytical template (Figure 2.14) essentially for Knowledge Capturing.

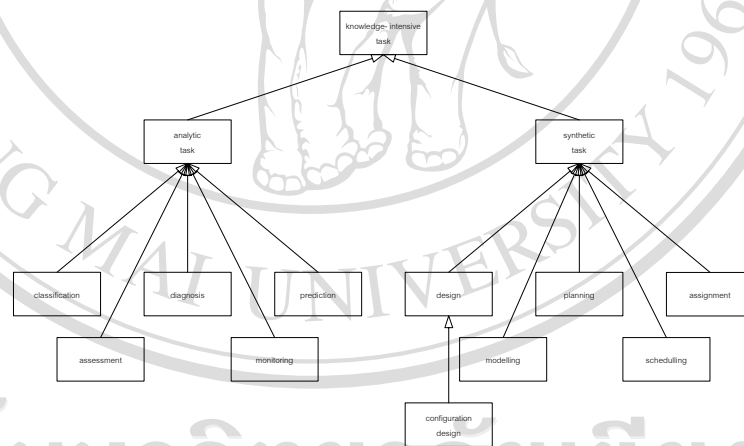


Figure 2.14 CommonKADS analysis Templates

Source: Chackpitak 2006

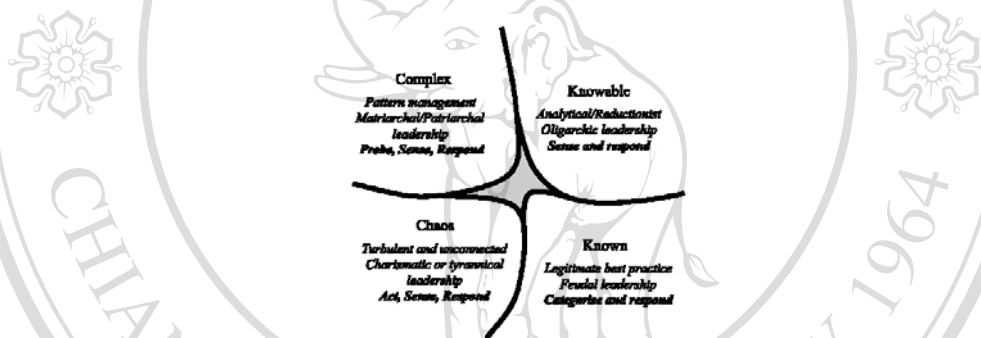
2.6 Cognitive Decision Making

There are also some other considerations for cluster development for the new dynamic cluster model which largely important for the developing countries. According to the study of social economy, the study has been suggested that the normal business enterprises focus on the economic activities for the maximum profit for shareholders, particularly the large international corporations, disregarding of the well being of local communities. The study, therefore,

suggested that even if the best-known theorist of innovation clusters is based on Dr' Porter model, however many other theorists and practitioners also quested for the balanced structure of innovation in particular economic and social contexts [38]. It is even more appearing from Dr. Drucker in the recent year in which he emphasized on the modern effective management using nonprofit organization as the reference model [43].

2.6.1 Cynefin Framework

Cynefin is the cognitive decision making framework capturing tacit knowledge for making induction decision making developed by Dave Snowden in the early 2000 [33]. The Cynefin framework is derived from the action research by using of narrative and complexity theory in organizational knowledge exchange, decision-making, strategy, and policy-making. The framework is explained, its conceptual underpinnings are outlined, and its use in group sense-making and discourse is described [32].



Figures 2.15 Cynefin Framework
Source: Snowden, 2003

Cynefin Framework Consists of

1. Complex
Pattern Management
Matriarchal/Patriarchal Leadership
Probe, Sense, Respond
2. Knowable
Analytical/Reductionist
Oligarchic Leadership
Sense and respond
3. Chaos
Turbulent and unconnected
Charismatic or Tyrannical Leadership
Act, Sense, Respond
4. Know
Legitimate best practice
Feudal Leadership
Categorize and respond

2.6.2 Cynefin Contribution Towards New Competitiveness Model

Cynefin framework can be used on tacit-explicit knowledge decision making by generating the required clear separation of context from the scope of content from the management and challenges of the orthodoxy of scientific management structure [67]. This complex adaptive systems theory can be used to create a sense-making model that utilizes self organizing capabilities for the informal cluster communities and identifies a natural flow of knowledge creation, disruption and utilization among them.

2.7 New Proposal Concept Framework for this research

In summary, the prior knowledge domains from various studies and research mentioning above had pointed out that cluster and competitiveness models needed to be reconstructed [68] to be able to catch up with the global demand on the issues. Hence, it is quite clear that cluster development is quite unique and difficult to repeat with the same process on the same type of cluster on different location due to the complexity of soft-side dynamic attributes. Certainly, locality would significantly impact on the development particularly when deal with the social issues. The attempt in this study is to offer an alternative model dealing with the dynamism of cluster complex system which largely involved in the integration of the locality and social issues to the clustering mechanism. The new alternative dynamic model proposed in this research should not be considering only on the business activities for the maximize profit as suggested on the earlier model. But, it must also consider the social implication of the local context among many other factors. Further more, this dynamic model must focus on the system dealing with the dynamism of the cluster rather than identifying more contributing factors which almost infinite. By considering the clustering as the process of thinking, Knowledge Integration, judgment wisdom and indigenous ideas will also very important dynamic contribution in addition to the imported innovation and technologies from the perspective of the local context. The integration of the social and economic driven factors must also be significantly integrated as suppose to unknown abnormally consideration. Moreover, the dynamic cluster development must be based more upon the soft-side of the equation rather than the predefined hard-side attributes. Finally, It is noticeable evident from many research and studies that cluster for competitiveness complexity is the externality and decision making issues related to externality. The cluster for competitiveness is the reason for that result needed but not the other way around. The following is the hypothesis model proposed for this research.