Chapter 7
4th Method: Analysis and Results

7.1 Profiling the Result

Cognitive Knowledge Management and Ontology is the alternative answer to the research questions and Knowledge Management System is the final outcome of this study. The analysis of the result is based on the following criteria (Figure 7.1). The analysis consist of 5 indicators the 1st indicator measure the classification of knowledge map from the theoretical framework, the 2nd indicator demonstrated the Software Engineering method of the development and features and functions of Knowledge Management, 3rd method including the easy of used and usability test, 4th indicator involved the loop back validation of the proposed knowledge model and the last indicator is the validation result of the theoretical strategic learning proposal of the research questions. Detail of Software Engineering process included in the attached appendix (Appendix A) at the end of this study.

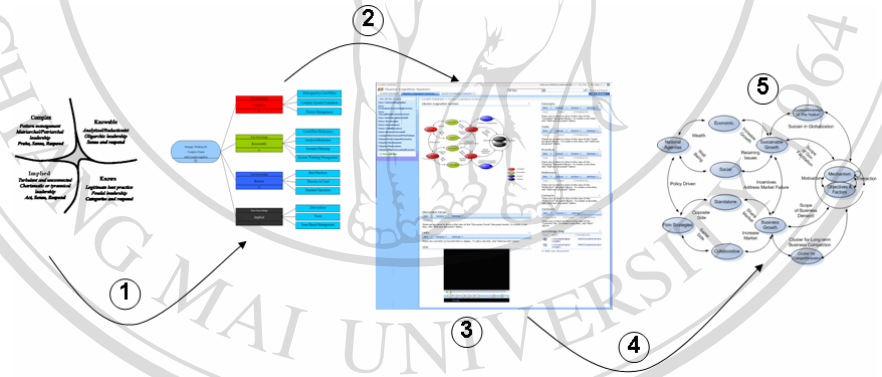


Figure 7.1 Analysis Process
Source: Tamprasirt, 2008

7.1.1 Applicable with Cynefin Framework

Verification of classification of the externalities and the interaction between various contributing factors into different subsets of actionable knowledge drawer compliance with Cynefin framework by which evaluated by indicators explaining as the following guidelines:

1. Complex

   Breakdown the complex stories into pattern with the pattern management.

2. Knowable

   One the complex system has been defined the story will be broken down into knowable subsystems with analytical or reduction method

3. Chaos

Chaos is sometime difficult to differentiate with very complex situations. Very complex situations can be broken down into solvable patter However, chaotic situation can not be. It must be deal the turbulent with the unconnected pointed of views.

4. Known

From complex situation can be broken down into knowable pattern, it can also further separated into the known practices or knowledge which best practice can be built from.

Using the Cynefin Framework, the contributing elements in cognitive knowledge model can be mapped according to 4 subsets guidelines derived the very complex cluster situation into known and digestible task. The following is compliance indicators derived from the Cynefin Framework.

Classification Indicators:

1. Complex System

This represented the Integrated System between Externality and Internality of Cluster for Competitiveness.

2. Knowable Transformation

Bi-polar extremes transformation represented the social and economic balancing which tremendously affected the cluster for competitiveness ordeal.

3. Known (Theoretical Model)

The known and well accepted Competitiveness Economic frameworks and the best practical methodologies used by which this can be applied in each cluster for competitiveness projects.

4. Implied Factors (Interaction)

The strategic system thinking manipulates the almost infinite interaction between know and hidden contributing factors in which usually dominate the unique outcome of each cluster initiation. It is the system to evaluate the uncontrollable and chaos factors of cluster development.

7.1.2 Compliance with Knowledge Management System Concepts

The following is the minimum requirements indicator measurements.

7.1.2.1 Support Community of Practice Requirements

The proposed model can be implemented by conceptualizing the model into Knowledge Management System (KMS). KMS created must also complied with the function specification according to IEEE Standard.

7.1.2.1 Support Roles and Responsibilities:

Manager, Expert, Knowledge Engineer and Knowledge Worker including:

1. Contribution role for manager and experts
2. Content Manager role for knowledge engineer
3. Reader role for knowledge worker
4. Private Desktop Function

7.1.3 Compliance with Community of Practice Requirements

7.1.3.1 Support Knowledge Base Capability for Explicit Knowledge Sharing (Knowledge Repository and KM Portals)

1. Knowledge Map
2. Knowledge Map Instruction and Help
3. Document Management System
4. Forum Discussion System
5. Capability Management System [Know-Who-Know-What]
6. Lesson Learned Knowledge Base System
7. Content Management System for Photo, Video and/or Multimedia

7.1.3.2 Business Decision Support by Using Knowledge Workers

KMS must also include this feature as the basic information base for decision making support for Knowledge workers i.e. case studies, statistical analysis, summary of references and etc.

7.1.3.3 Knowledge Workers' Brain Storming (Tacit Knowledge Sharing) Activities

Brain Storming for all information base in each page of the portal including Knowledge Map, Reference, forum discussion and identifying the new update of the contents are also the essential parts of KMS.

7.1.3.4 Support Knowledge Workers Communication within their Community of Practice

Facilitating of all means of communication for knowledge worker with or across the community of practice is also a mandatory feature of KMS developed.

7.1.3.5 Search Features

Advanced search engine provided by KMS is also another important features requirements. Task, Inference, Knowledge Base Information in all documentation libraries both by name and assigned code can be specifically searched. The searching features can be implemented according to the following criteria:

1. Search Community of Practice, Task, Inference, Knowledge Base by Name and Code
2. Advanced Search by Combination Keywords
3. Meta Data Search (WebDAV)
4. Content Search for Appropriated Electronic Documents and Contents
5. External Content Search

7.1.3.6 Link with others and act as Enterprise Content Management

Portal linked feature for KMS is also required. And, this will be served as the first stop information feeder for both internal and external content provider for the entire community.

7.1.3.7 Knowledge Worker Performance Accounting System for Contribution in Decision Support Activities, Community of Practice Activities, Knowledge Base Sharing and/or Use.

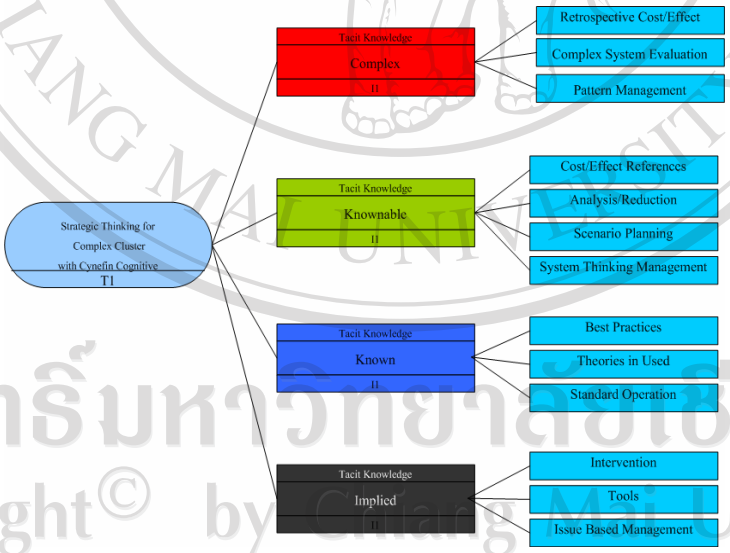
KMS must also facilitate statistic and accounting system for various objectives i.e. compensation for contribution, achievement and recognition, review and penalty and etc.

CDA will be the main target group of knowledge working within the boundary of this community of practice. And according to the proposed framework, this KMS will have to accommodate the used of cognitive learning by which separated into 4 classification as mentioned above.

7.2 Cognitive Design Compliance with Cynefin Knowledge Cycle

7.2.1 System Design Overview

Knowledge map of the tasks and inferences of the implementation of the proposed theoretical framework was designed according to Cynefin Knowledge Cycle (Figures 7.2). This concept will be used as the foundation of the entire KMS portal to create the symmetrical and consistency flow of the structure of the system. This also acts as the COP site map and navigation roadmap for knowledge workers in the community. This proposed KMS is a strategic learning tool for CDA to draw the boundary and almost parameters within the scope of cluster implementation. This also facilitates the interaction between knowledge workers within community of practice in order to dynamically manage the expectation and outcome which is difficult to predict the end result.

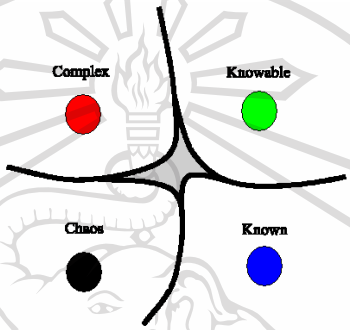


Figures 7.2 Cognitive Knowledge Map
Source: Tamprasirt, 2007

Noted the color coded will be coordinated with the Cynefin guideline classification mentioned earlier. This also aligns with navigating system through out an entire KMS system. The color code coordination will be further explained in the later section.

7.2.2 KMS Color Code Coordination Design

Base on the Cynefin guideline classification above, the Knowledge Map (Figures 7.2) was colored coded in order to coordination the knowledge cycle with the COP navigation system to facilitate the better system flow to support the dynamism of knowledge map. The following Figures (Figures 7.3) is the Cynefin Framework color mapping to be used as the Knowledge Cycle for Cluster Knowledge Map implemented by this proposed KMS.



Figures 7.3 Color Code Mapping
Source: Tamprasirt, 2007

7.3 Software Engineering Indicators

Software Engineering methodology is also be used for KMS development. The Software Engineering Specifications will also be defined and used as result measurement indicators after the KMS requirements and designs have been evaluated.

Software Engineering Measurement consists of:

1. Software Requirements and Design
2. Software Implementation
3. Software Testing

The following is the analysis of the result.

7.3.1 Software Requirements and Design

7.3.1.1 KMS Function Specification

KMS Function Specification separated into the following:

7.3.1.1.1 Administrative Functions

1. Manage Users: Knowledge workers and Community of Practice Management

1.1 Contributor role for managers and experts
1.2 Content Manager role for knowledge engineer
1.3 Reader role for knowledge workers

1.4 Administrator role to manage Community of Practice Areas, User and Security

2. Manage Area: Access Control

2.1 User Community Access Right: Multilevel Rights for the different categories of users in each community of practices

7.3.1.2 Portal Functions

1. **Topics**
   - 1.1 Cognitive
   - 1.2 Each Community of Practice
   - 1.3 Databank
2. **Areas**

   General Portal Frame
   - 2.1 Top Frame
   - 2.2 Middle Left Frame
   - 2.3 Middle Right Frame
   - 2.4 Bottom Frame

7.3.1.3 List of Knowledge Based

1. knowledge map (Cynefin Framework Representation)
2. Reference documents (Repository)
3. General Discussion forum
4. Contacts for capability management system
5. lesson learned knowledge, Best Practice, Story Telling
6. Portal Link
7. Picture and Multimedia Electronic Document Library for Case Study, Image knowledge
8. Knowledge Map Instruction and Help for Knowledge Worker

7.3.1.4 List of Decision Support Collaboration

1. Web Part Feature for Knowledge Map
2. Tasks involved in Community of Practice Activities
3. Issue Based Management
4. General Discussion for decision support system (Bi-direction)

7.3.1.5 List of Communication within a Community of Practice

1. Events Features for meeting, training, seminar, ceremony, appointment
2. Announcement related to the Community of Practice
3. News

7.3.1.6 Private and Public Function

1. **Portal Feature**
   - 1.1 User Profile for knowledge workers
   - 1.2 Shared Workspace for decision support and collaboration

for knowledge workers

1.3 Shared Documents for community of practice useful documents

1.4 Shared Link for useful links which related to Community of Practice

1.5 Calendar
1.6 News
1.7 Links Summary
1.8 Links
1.9 Alerts
1.10 Private Documents for private useful documents
1.11 Shared Documents for corporate useful documents
1.12 Figures

7.3.1.7 Search Function

1. Search Communities of Practices, Task, Inference, Knowledge Base by Name or Code

2. Advanced Search by Combination Keywords

2.1 Search by Type (Area Items, Area, Document Library, Documents, Lists, People, Figures Library and Figuress)
2.2 Search by Properties (Description, Title, URL)
2.3 Search by Date (Modified in Last Hour(s))

3. Meta Data Search (WebDAV)

Web Distributed Authoring and Versioning allows user to transparently publish and manage resources on the World Wide Web.

4. Content Search and External Content Search

7.3.2 Software Implementation

For the actual KMS implementation, the system components were selected from the conventional products which can be acquired commercially. KMS for this system consists of Dell hardware system and Microsoft SharePoint Content Management Portal System. The following is the detail specification.

7.3.2.1 Hardware System Specification

1. Server Specification

1.1 PC Base Server using Intel Pentium4 3.0 GHz as the main processor
1.2 Memory Capacity of 2048 MB
1.3 Storage Capacity of 40 GB
1.4 Read/Writable CD Rom
1.5 Network Interface Capacity of 100 MBPS
1.6 15 Monitor
1.7 Keyboard, Mouse and Peripherals
1.8 UPS

2. Client Device Specification

2.1 PC Desktops or Notebooks Clients using at least Intel Pentium 700 MHz as the main processor

2.2 Memory Capacity of 256 MB
2.3 Internet or Local area Network Access
2.4 Keyboard, Mouse and Peripherals

7.3.2.2 Software Specification

1. Server Software Specification

1.1 Microsoft Windows Server™ 2003 Standard, Enterprise, Datacenter or Web Edition equipped with Service Pack latest upgrade (This service packs is essential for SharePoint Portal Server 2003

1.2 Windows Server 2003 Web Edition Requires to install Microsoft SQL Server™ 2000 on a different server.

1.3 Microsoft Internet Information Services (IIS) 6.0

2. Microsoft Office SharePoint Portal Server 2003 Requirements

2.1 SharePoint Portal Server 2003 including Microsoft SQL Server 2000 Desktop Engine (MSDE 2000). Microsoft SQL Server 2000 Standard Edition or Enterprise Edition with most up-to-date Service Pack is required for better through put and performance (with SharePoint Portal Server 2003 on Domain Controller Server this must be used with SQL Server 2000 Standard Edition or Enterprise Edition with the most up-to-date Service Pack)

2.2 SharePoint Portal Server 2003 must be a member of the Domain in Microsoft Windows NT® 4.0, Windows® 2000 or Windows Server 2003

3. Microsoft SQL Server 2000 Enterprise Edition Requirements

3.1 Microsoft Windows NT® Server 4.0 operating system with Service Pack 5 or higher, Windows NT Server 4.0 Enterprise Edition with Service Pack 5 or higher, Windows 2000 Server, Windows 2000 Advanced Server or Windows 2000 Datacenter Server

3.2 Microsoft Internet Explorer 5.0 or higher

4. Client Specification

4.1 In order to use KMS, Microsoft Internet Explorer 5.01/5.5/6.0 with the most up-to-date Service Pack must be installed on the clients

4.2 Microsoft Office Visio 2003 (Optional)
4.3 Microsoft Office 2003 Edition (Optional)

7.3.2.3 KMS Features

From Concept to Implementation of the dynamic model, the result of the system was designed base on the Cognitive Cynefin Framework in which the system separated into 3 main areas.

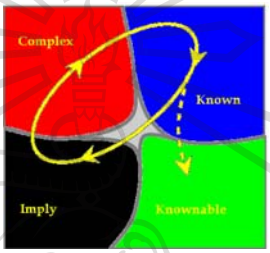
1. Cynefin Databank

This subsystem contains information and knowledge related to the Cynefin and a few others cognitive decision making information related to this study. This will assist users and interested participant to understand the scope of decision relating to cluster and other long-running social and economic complex

project to get the general ideas of the scope and boundary of decision making involved.

2. Cognitive Cluster System

This subsystem involved information and knowledge for cluster initiatives. The system can dynamically guide CDA and the involved parties to cope with each step and cluster development process involved. The flow of this subsystem was designed based on the 4 quadrant of the cynefin framework (Figures 7.4) which can be easily access by the following icon on every knowledge map within any given reference point of this subsystem.



Figures 7.4 Reference Icons
Source: Tamprasirt, 2007

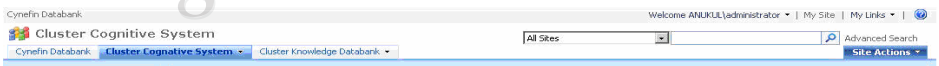
3. Cluster Knowledge Databank

This subsystem contains knowledge and information of cluster knowledge that related in each subcategories of phases development of cluster initiation. The knowledge databank was collected from various sources of parties involved in cluster projects. Initially, these document were referring as the best practice that can be conceptually used as the case reference to ensure the success of the project implementation.

From the conceptually design based from the Cynefin Framework, the system consists of the following features starting from the main page and the other two subsystems as mentioned above. The main page served as the referring point particularly for the first time users to understand the overall concepts of cognitive used for cluster development. The actual detail and user interaction are in the 2nd subsystem based on system dynamic model interacting with the knowledge flow between the social and economic contributing factors.

Each page within this system was separated into 3 main areas complied with the system requirement specification. Each page is separated into the following frames/zones

1. Top Menu Frame (Figures 7.5)

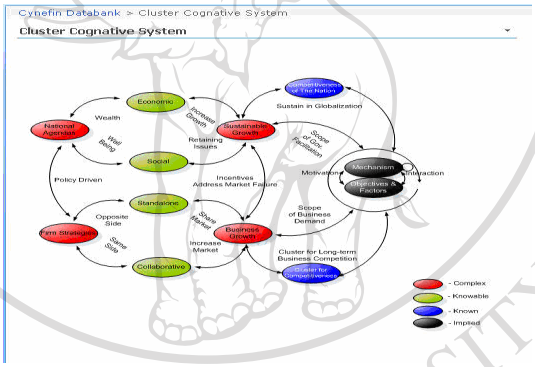


Figures 7.5 KMS Top Menu Frame
Source: Tamprasirt, 2007

2. Left Menu Frame (Figures 7.6) in each subsystem

Figures 7.6 KMS Left Menu Frame
Source: Tamprasirt, 2007

3. Top Zone (Figures 7.7) is the main idea in each page, for examples, the knowledge map of cluster cognitive system in the 2nd subsystem.



Figures 7.7 KMS Top Zone
Source: Tamprasirt, 2007

4. Middle Left/Right Zone (Figures 7.8) consists of the necessary knowledge and information related in each page of the system.

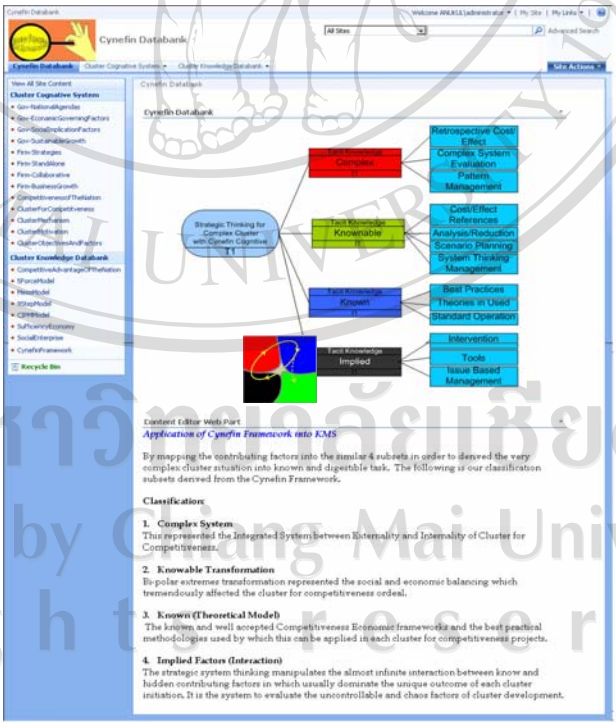
Figures 7.8 KMS Middle Left/Right Zone
Source: Tamprasirt, 2007

5. Bottom Zone (Figures 7.9) is another part of knowledge and information used in each page this part of the page may also include the multimedia and video content related.

Figures 7.9 KMS Bottom Zone
Source: Tamprasirt, 2007

7.3.2.4 KMS System Functionality

7.3.2.4.1 Main Page described here in this subsystem illustrated the flow mechanism of the system. It is also associated with the color code mapping explained later on in this section of the system features. The following (Figures 7.10) is the screen captured illustrating the system configuration of this subsystem.

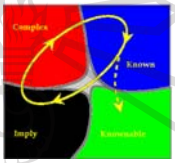


Figures 7.10 The Cynefin Framework Subsystem
Source: Tamprasirt, 2007

Dynamic Referencing

The following (Figures 7.11) is an iconic representation associated with the color coding system separated the socio-knowledge of cluster initiative into the following factors:

1. Complex
2. Know
3. Knowable and
4. Implied



Figures 7.11 Iconic of Cognitive Cynefin System
Source: Tamprasirt, 2007

The icon will be appeared in every page of Cluster Cognitive Subsystem. And this allows the user to interact with the driven parameter other than the direct association of cluster initiation. As mentioned in the earlier section, the cluster complexity is largely depending upon almost infinite externality factors involved.

Known parameters can not foreseen far more than static contribution factors. At most, the interaction between known contributing factors can be considered as part of the dynamic factors. However, these interactions can not be as complicated as the external factors. Therefore, the result of this research has been shown that managing the external factors could considerably improve the cluster development.

7.3.2.4.2 Cluster Cognitive Subsystem

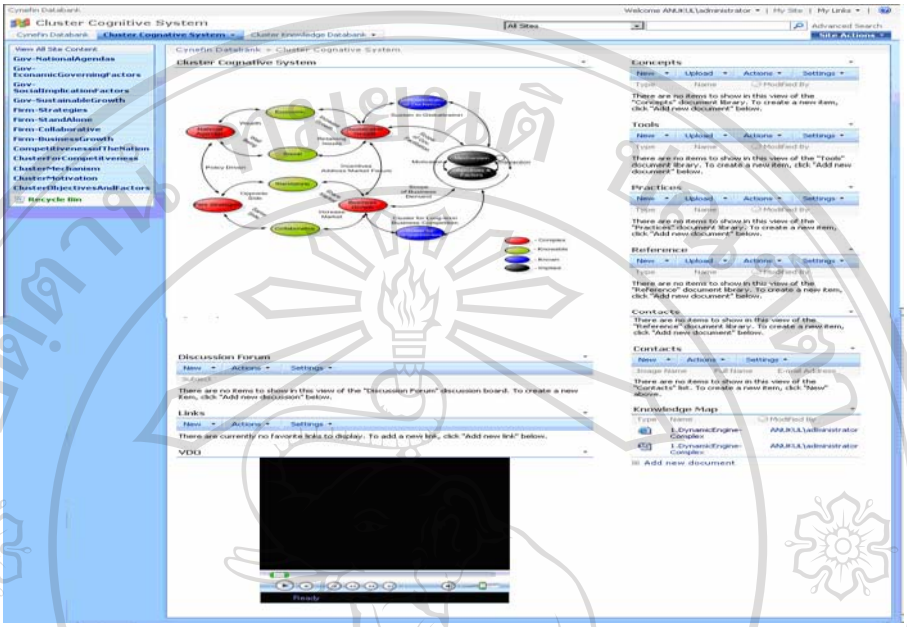
This is a main cluster cognitive subsystem (Figures 7.12). The knowledge map explained the system dynamic of the externality involved in cluster development. This again focuses the basic concept the cluster that it is not just the group of the companies within the proximity areas but it is the intersection between the public policies driven by the public and the capability of business making of the private enterprise.

This subsystem can separated into the following knowledge map in which associated with the system flow guided by within the Cynefin Framework (iconic association with the color code)

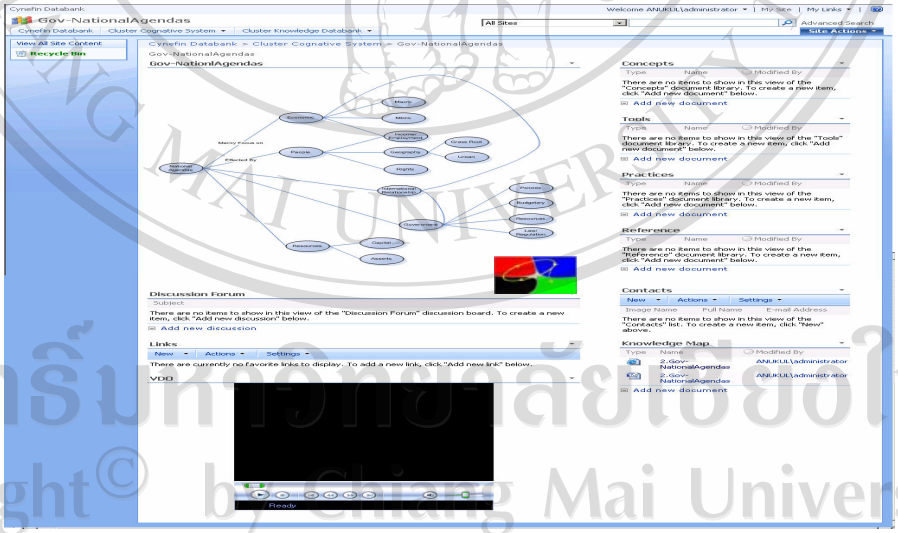
1. Gov-National Agenda

This page (Figures 7.13) described the knowledge base requirements within the complex government framework policy. It is the fact that government responsibility is for the good of the public and an equal opportunity for all. Balancing the welfare and business improvement can be very challenging issues to be involved. This complex situation can be conceptualized by the system complexity, patterning and benefit and/or cost. Again, the icon color code system

(Figures 7.11 above) within this page represented the dynamic access of the related knowledge base involved.



Figures 7.12 Cognitive Cluster Subsystem
Source: Tamprasirt, 2007

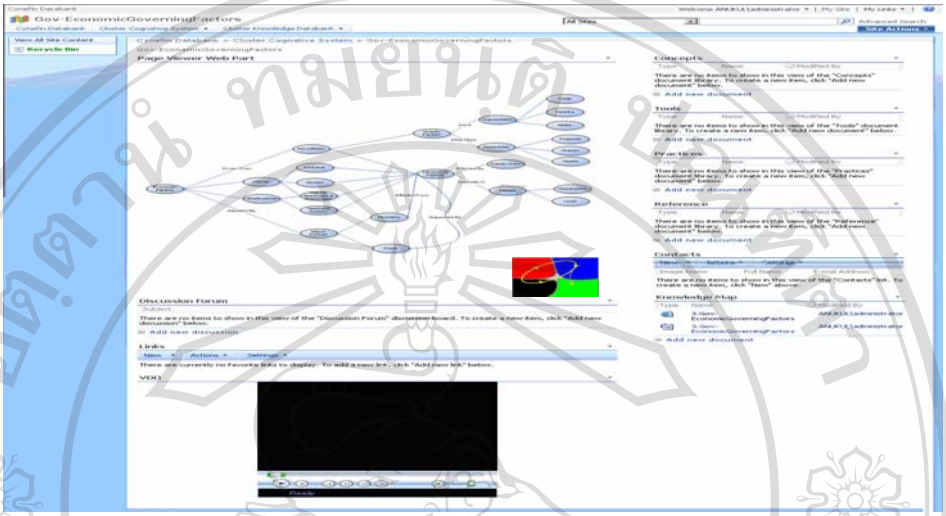


Figures 7.13 National Agenda Factors
Source: Tamprasirt, 2007

2. Gov-Economic Governing Factors

National agenda can derived into 2 known external factors i.e. social and economic factors. The following (Figures 7.14) described the economic factors involved in cluster development. The Cynefin Framework can be

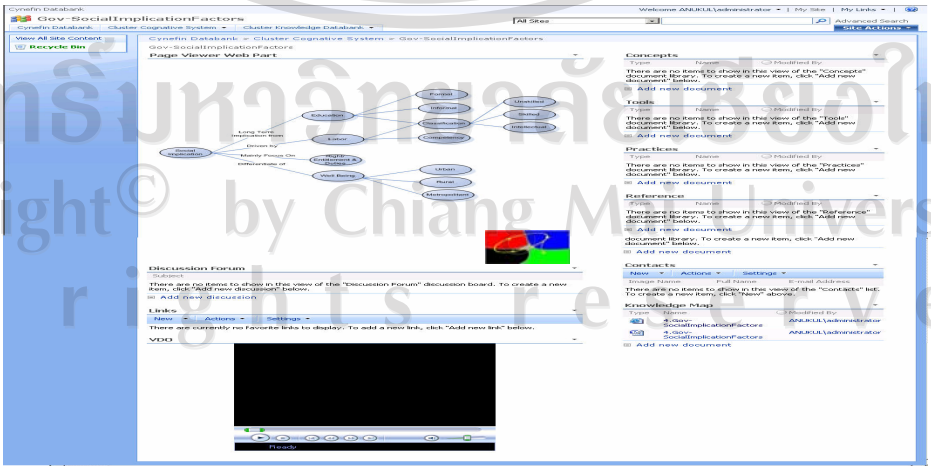
used as the deduction learning method to reduce the complication of the complex system which in this case is cluster development. This knowledge map explained the economic side governing factors in which the counter balancing with the social governing factors which can be explained in the following section.



Figures 7.14 Economic Governing Factors
Source: Tamprasirt, 2007

3. Gov-Social Implication Factors

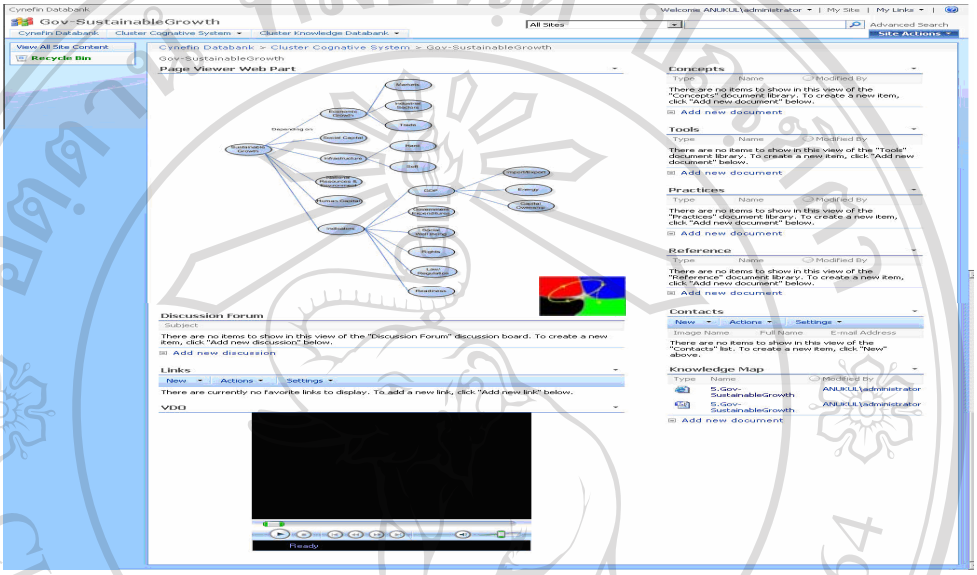
This knowledge map within this page (Figures 7.15) indicated the counter factors of economical issues mentioned above. The social implication for the well being of the people within each country offset the economic driven factors. The bipolar extreme factors help reduce the entire complex into 2 decision making by which CDA and participant must dynamically manage through out the course of the cluster life cycle. The format of this knowledge base in this page is complied with the rest of the page within this subsystem with the cognitive iconic system flow mention earlier.



Figures 7.15 Social Implicating Factors
Source: Tamprasirt, 2007

4. Gov-Sustainable Growth

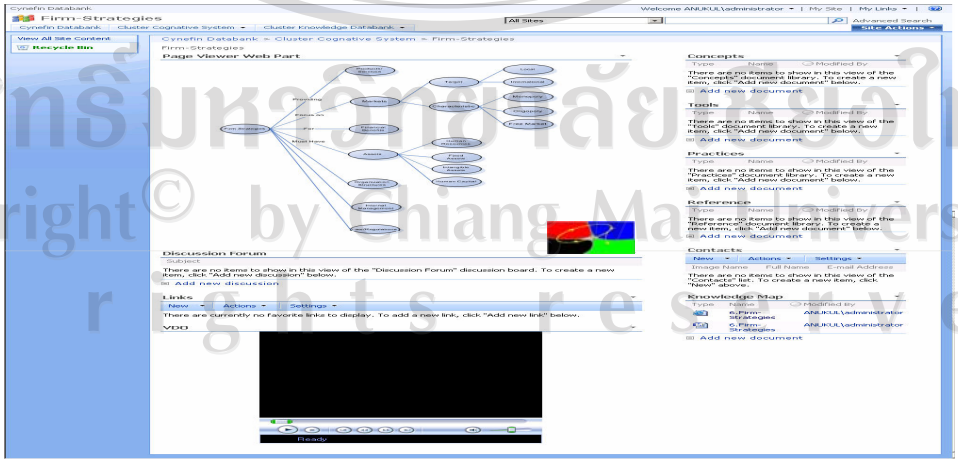
Government complex system is end up with the complicated situation due to the consolidation of two sets of factor, the social and economic factors. According to this knowledge Map in the following Figures (Figures 7.15), the factors in this is one of the direct influencing factors of the “well” know competitive advantage theoretical framework.



Figures 7.16 Sustainable Factors
Source: Tamprasirt, 2007

5. Firm Strategy

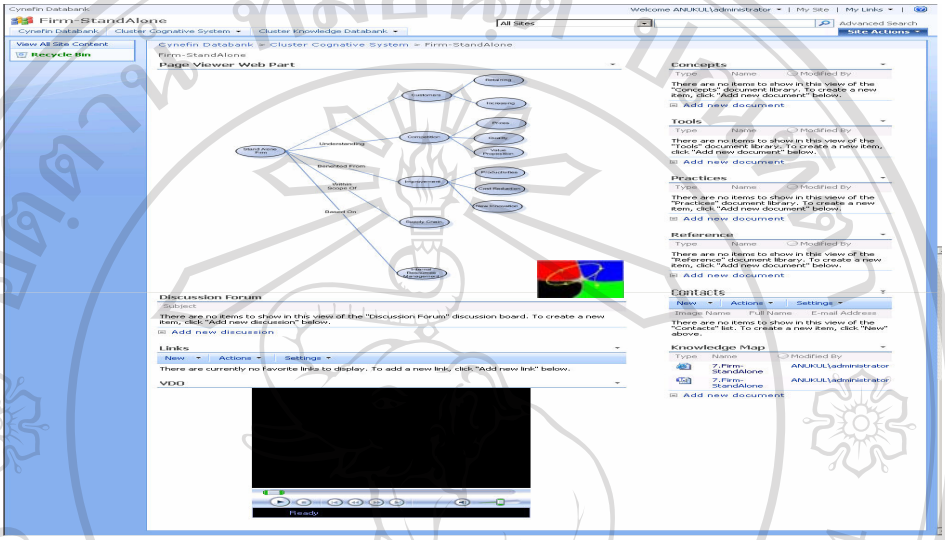
Likewise the public sector contributing factors to cluster initiations, the firm contributing factors can be also reduced into “well” defined forms. The knowledge map followed (Figures 7.17) is define an overall governing factors of the firm strategies involved in cluster development.



Figures 7.17 Firm Strategy Factors
Source: Tamprasirt, 2007

6. Firm-Stand Alone

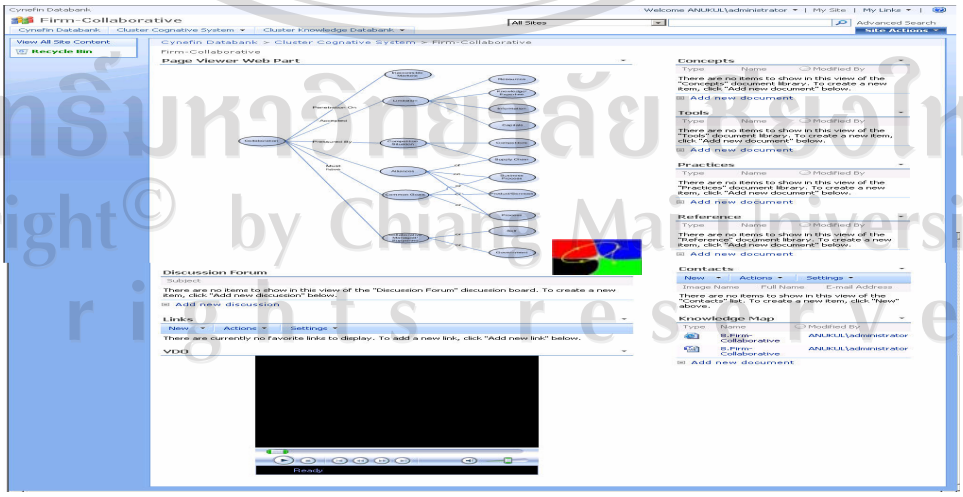
This page represented the “solo” strategic thinking of the firm in competition. The concept of stand alone according to the following Figures (Figures 7.18) has to be weighted for the small and medium size organizations to foresee necessary requirements for them to withholding the competition in globalization.



Figures 7.18 Stand Alone Firm Factors
Source: Tamprasirt, 2007

7. Firm-Collaborative

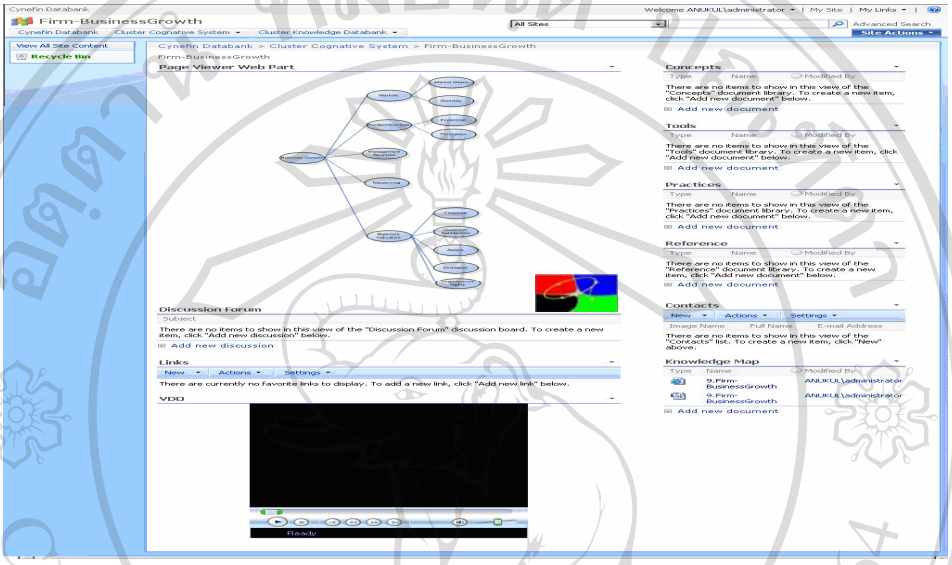
The collaboration is a must for the international competition. This is just a part of the foresight of the advanced entrepreneurs. With the understanding the complexity of international competition grows, CDA and cluster participants can handle these factor better. The factors in this knowledge map (Figures 7.19) can be defined as followed.



Figures 7.19 Clustering Collaboration Factors
Source: Tamprasirt, 2007

8. Firm-Business Growth

The cross over of collaboration based upon the insufficiency of uncombined talent to fight again the multination global competition. The factors in this knowledge map (Figures 7.20) can be projected directly into the cluster initiative factors. This must be dynamically balancing with the contributing factors from the government driven actions mentioned above.



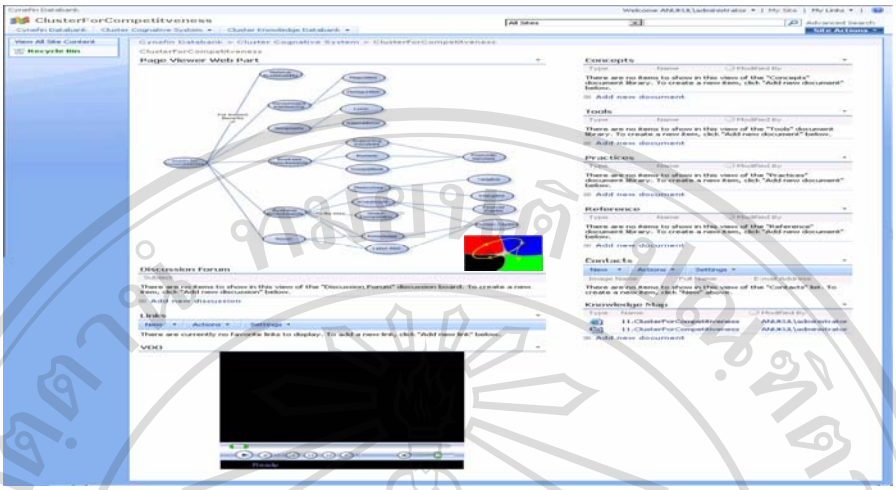
Figures 7.20 Substantial Factors
Source: Tamprasirt, 2007

9. Cluster for Competitiveness

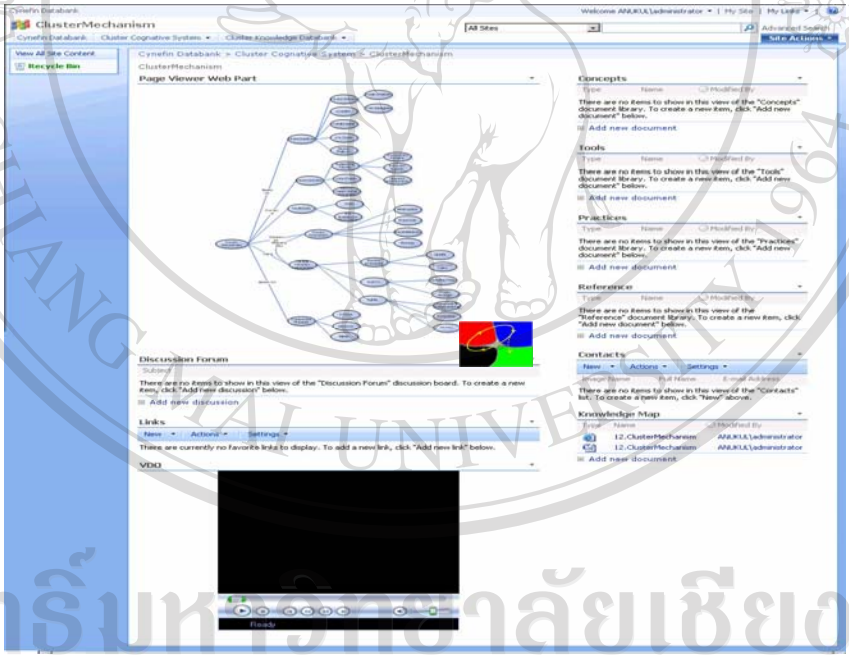
The Competitiveness theoretical model and subsequence studies related to this field are actually derived from this point (Figures 7.21). More over, Competitiveness and Cluster methods are both focus on the economic factors rather than the social implication. As the starting point of the studies, this research headed by the competition driving factors of the US. Therefore, it is more focus on the well and developed industries in comparison with the environment of the industries in developing countries.

10. Cluster Mechanism

According to the Cluster initiative mechanism, there are a number of well referenced implementation methodologies. Effectively, most of the implementation frameworks are guidelines complied with the competitiveness framework. Therefore, it is necessary for CDA and participants involved need to broaden the parameter scope to include the essential externality contributing to their cluster collaboration. Evidently, cluster mechanism should be an end result of considering the externality involved rather than the check list for cluster initiation.



Figures 7.21 Competitiveness Factors
Source: Tamprasirt, 2007



Figures 7.22 Cluster Initiation Mechanism Factors
Source: Tamprasirt, 2007

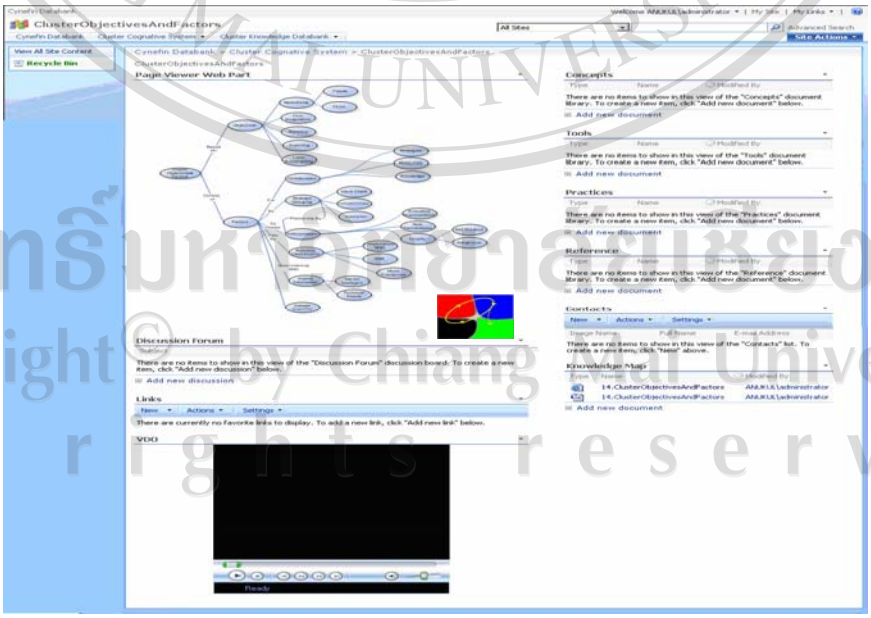
11. Cluster Motivation

Motivation is the most influential indirect factors in any cluster initiatives. Within knowledge map of Cluster Motivation (Figures 7.23) is coordinated with the implied category of Cynefin Framework in which described as an issue based which can be intervened. As the result, the system proposed 9-step Cluster motivation as the tool profiling the movement of motivation during the course of cluster life cycle.

Figures 7.23 Cluster Initiation Motivation Factors
Source: Tamprasirt, 2007

12. Cluster objective and Factors

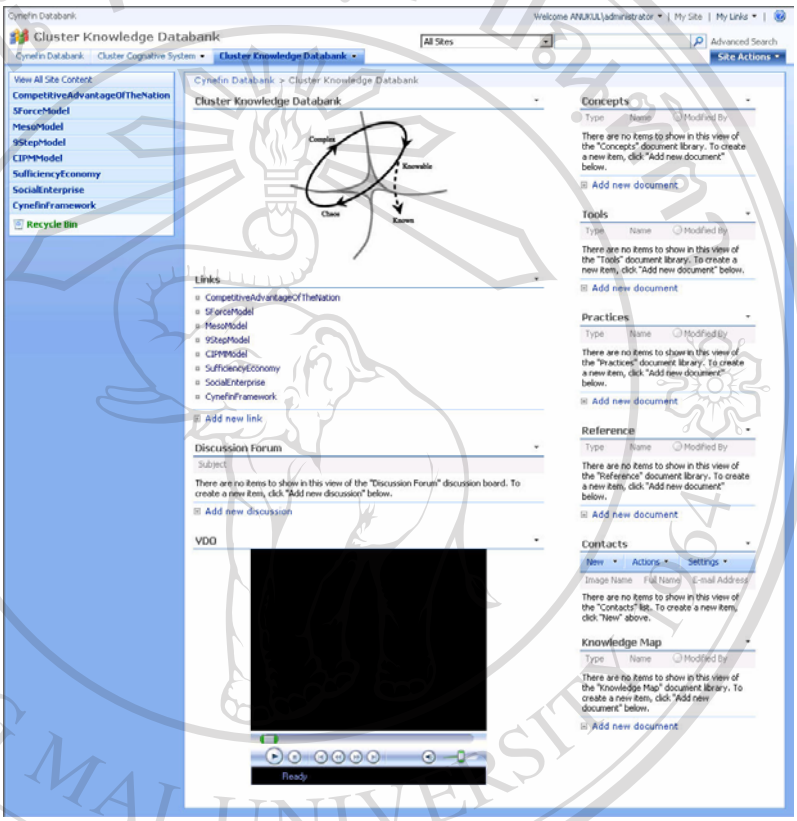
Similar to Cluster Motivation, Objectives and Factors determination are another part of active clustering derived from CIPM model. Again in this page, CIPM is used as one of the tools managing the implied factor in conjunction with Cynefin Framework. With in this page (Figures 24), it is also suggested that Cluster initiative is an action derived from managing externalities. It is an implication rather than planed action taken.



Figures 7.24 Well Defined Objectives Factors
Source: Tamprasirt, 2007

7.3.2.5 Data Bank

Data Bank is the large subsystem. It consists of various information and concept theories involved in Competitiveness theories, Cluster methodologies, Economics and others. Within this subsystem, it is organized and referenced to each category of the four classification of Cynefin Framework. The following Figures (Figures 7.25) is the main page of this subsystem. The detail of information of the Databank subsystem will be described in the following sections.



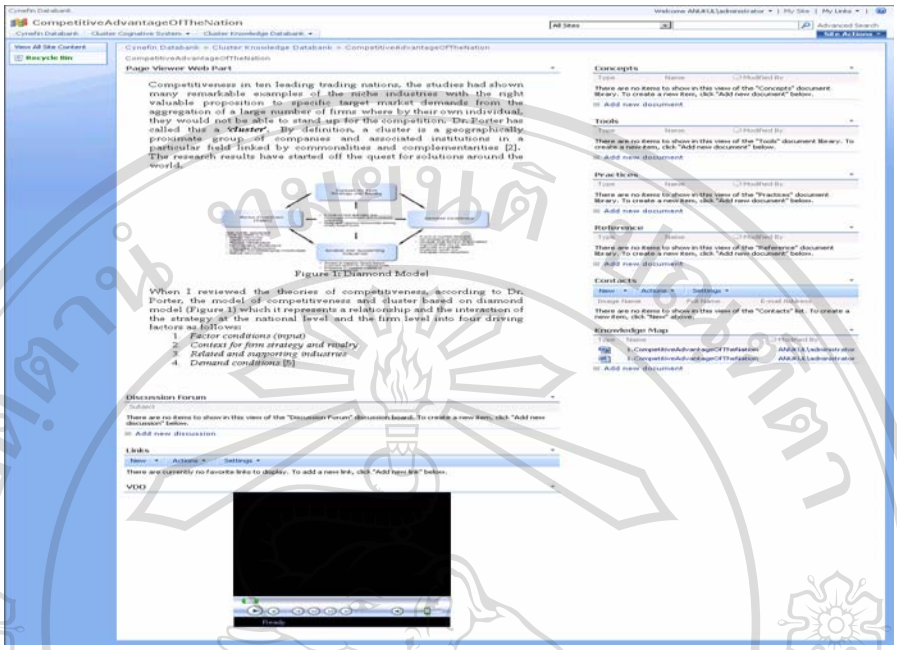
Figures 7.25 Main Page Databank
Source: Tamprasirt, 2007

1. Competitive Advantage of the Nation

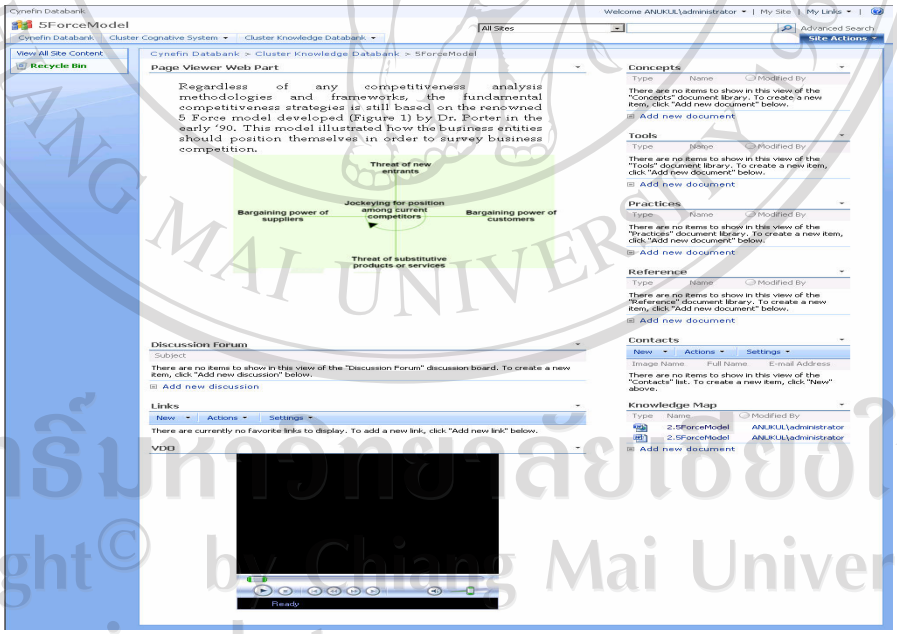
The main concept of competitiveness is base upon Dr. Porter's Diamond Model. CDA and Cluster participants can access and shared related knowledge and information used using the information within this page. The information and knowledge from this page (Figures 7.26) is used as the best practice references.

2. Five Force Model

This page (Figures 7.27) is also another best practice of the fundamental theory concepts widely used in cluster initiation. By using this as the best practice reference, this also help CDA and Cluster participants understand that these knowledge and information are suggested guidelines and framework that related in a part of cluster lifecycle and can be appropriated with a certain Cluster projects but can not be used in general.



Figures 7.26 Competitiveness Basic Theory Databank
Source: Tamprasirt, 2007

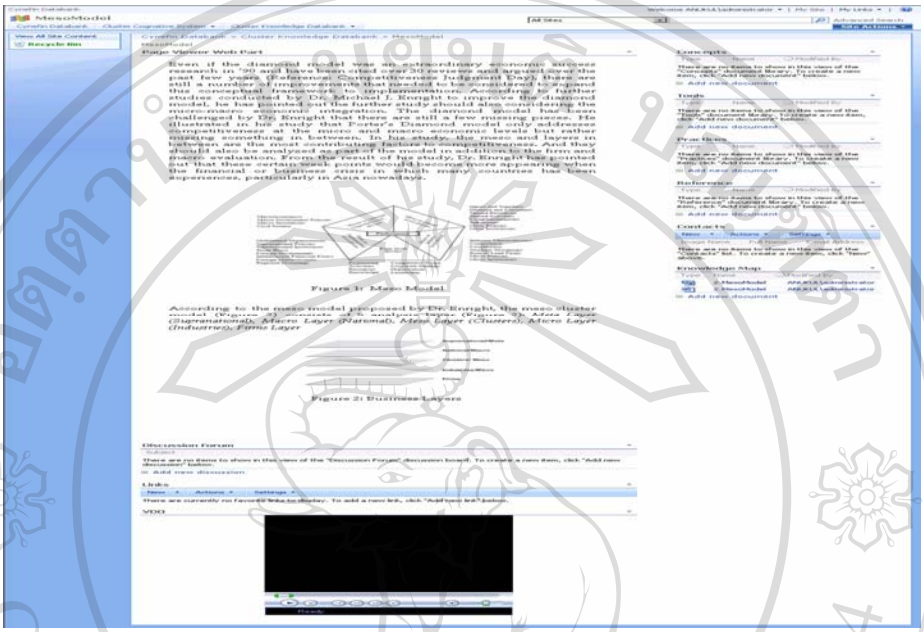


Figures 7.27 5 Force Model
Source: Tamprasirt, 2007

3. Meso Model

This is also another well known competitiveness and cluster theories. Recent academic and cluster implementation are using this (Figures 7.28) as the reference framework particularly the cluster development in developing

countries. By sharing the information along with the other information within this subsystem, it allows CDA and cluster participants understand the relationship among them and placing the course of action according to the strategies developed along the way.



Figures 7.28 Advanced Competitiveness Theory Databank
Source: Tamprasirt, 2007

4. 9Step Model

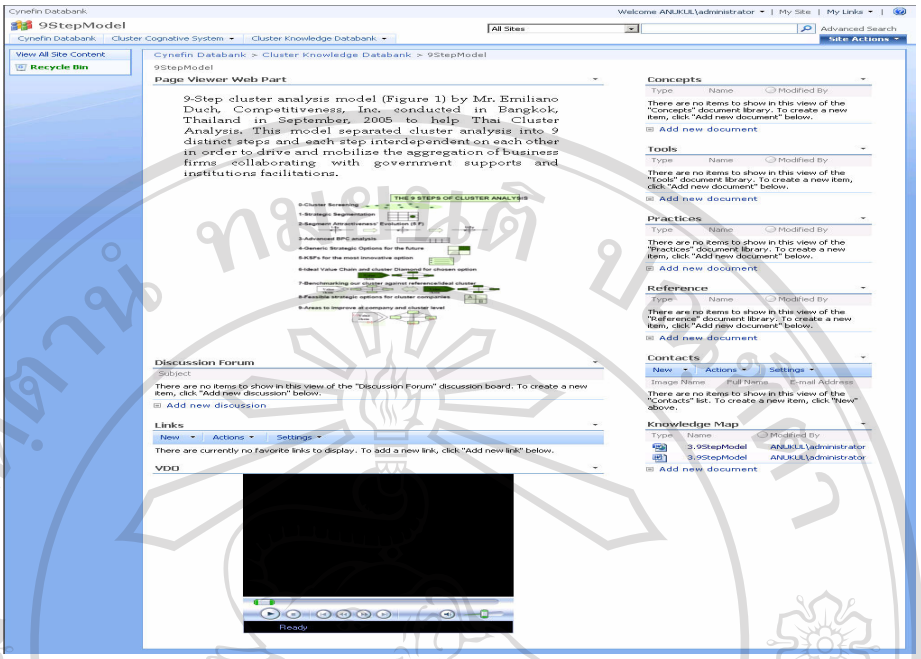
The 9step Model (Figures 7.29) is also another well recognized cluster methodology. It has been widely used as a strategic business positioning in many countries both developed and developing countries around the world. In certain extents, this may be viewed as the success formula for competitiveness however it is not include the social implication. Therefore, it is this research intention to include this as another alternative to be considered for the action plan.

5. CIPM Model

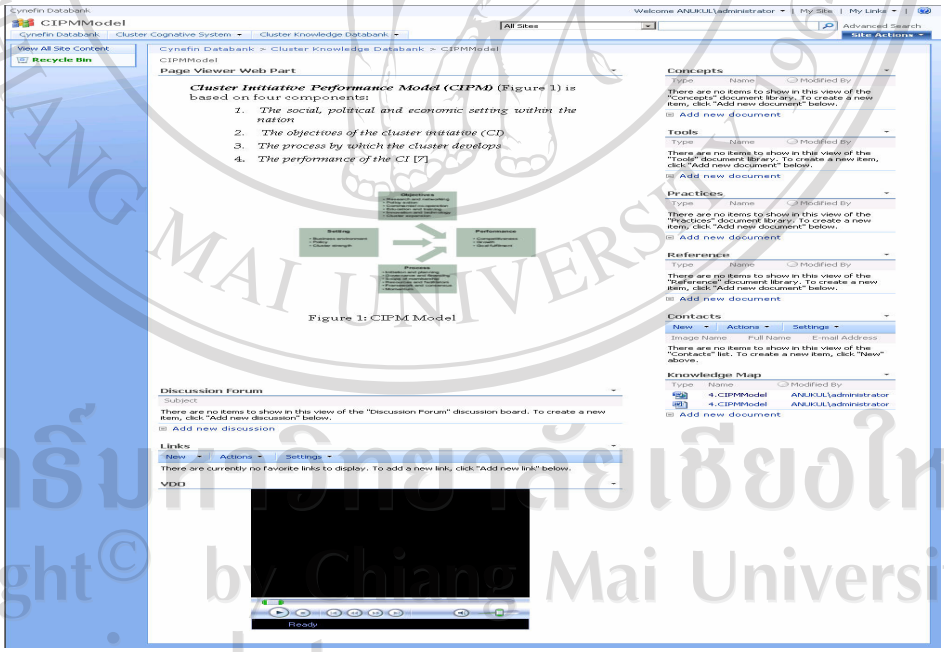
This is another well developed Cluster Implementation model. It is also another attempt to generalize the cluster implementation by addressing a few more important missing criteria of clustering. With in this page (Figures 7.30), CDA and participant can also using this as a part of a tool for the strategic movement to reduce the confusion and maintain the motivation for the entire cluster lifecycle.

6. Sufficiency Economy

This is also a result of this research to include a few alternative economic models. Global competition is “an outside looking in”. It focuses on doing business with international resources to make the products and services effectively. However, alternative economic modeling proposed “the inside looking out” concepts focus on the local resilience of globalization. This page (Figures 7.31) is one of the examples included in the system.



Figures 7.29 Cluster Implementation Strategy Databank
Source: Tamprasirt, 2007

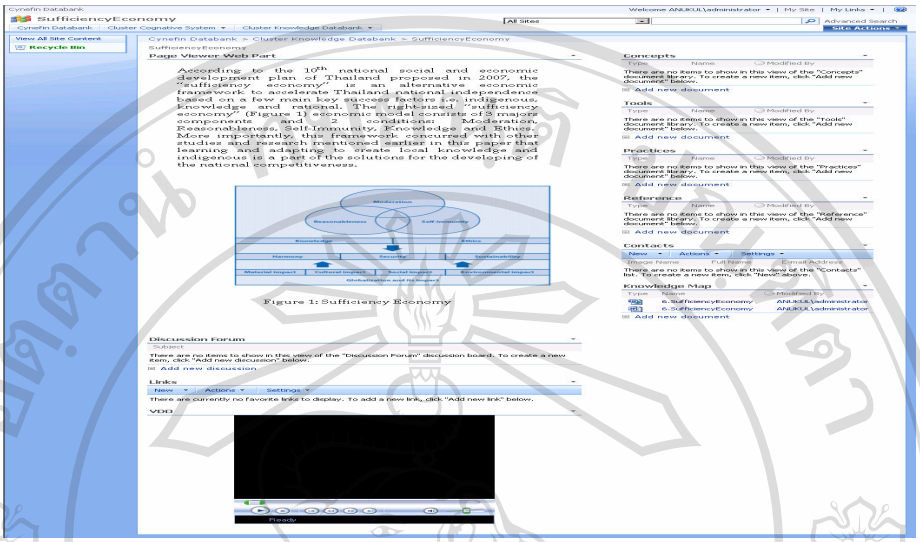


Figures 7.30 Cluster Implementation Strategy Databank
Source: Tamprasirt, 2007

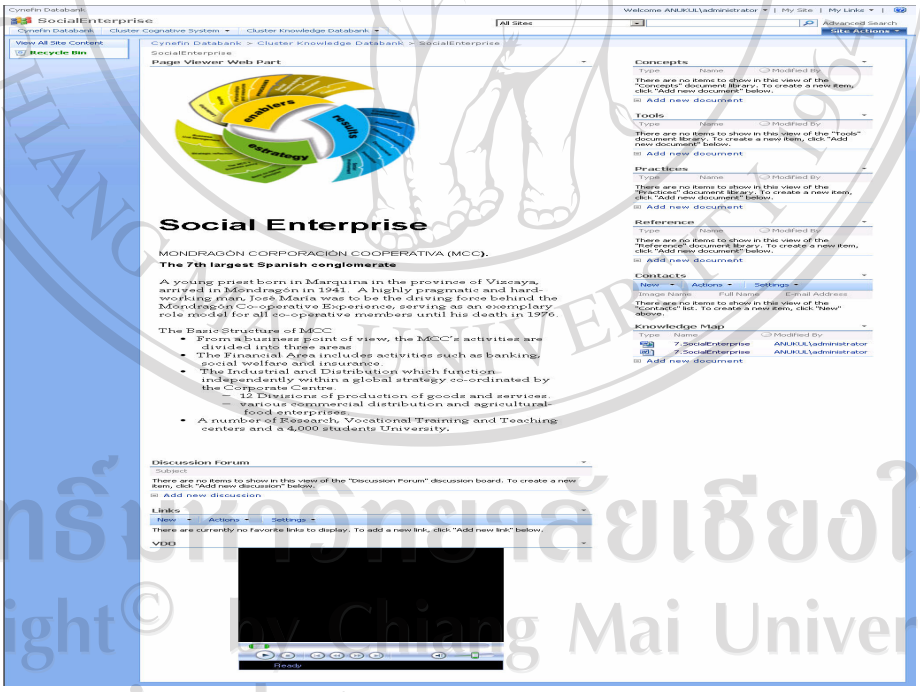
7. Social Enterprise

Again, this is also another success story includes in the system. Social Enterprise is also another form of success clustering. It is completely developed base on social concern and evolved into business conglomerate over time.

The social enterprise as described in this page (Figures 7.32) is also illustrated another “inside looking out” concept for the Cluster Implementation.



Figures 7.31 An alternative Economic Model Databank
Source: Tamprasirt, 2007



Figures 7.32 An alternative Economic Model Databank
Source: Tamprasirt, 2007

In addition, the databank can be expanded even more to include various theories and concepts and the other interesting information for CDA and Cluster Participant to share and discuss. The structure of this subsystem is allowed CDA and Participants to do so with ease.

7.3.3 Software Testing

7.3.3.1 Test Configuration

1. **Test Description:**
   Cluster Community of Practice Body of Knowledge.
2. **Assumption:**
   Attendants are expert who participated in Knowledge Elicitation and Modeling Process.
3. **Test Case Examples:**
   Northern and Makhong Basic Clusters
4. **Question:**
   Frequently asked (FAQ)
5. **Logging System**
   Microsoft SharePoint System Reviews

Feed Back:

Table 7.1 Software Testing

Issue	Proper	Fair	Poor	Comment
DT-1 Management Role (Contributer)				
Conduct Task		X		Share Point Features
Create Cluster Senario		X		Share Point Features
Conduct Decision		X		Share Point Features
DT-2 Expert Role (Contributor)				
Suggestion (CoP/Task/Inference Level)	X			
Knowledge Base Contribution	X			
Response to Task, Senarios, Forum, Alert, Help Me, Asking		X		
Community Contribution		X		Need further Improvement for more complex situations
DT-3 Knowledge Engineer Role (Content Manager)				
Content Management (Create List, Screen Layout)		X		Share Point Features
Knowledge Base Maintenance/Contribution		X		Share Point Features
Community Management		X		Share Point Features
DT-4 Knowledge Worker Role (Reader)				
Help Me (Support Empowerment)		X		
Teach Me /Learning		X		

7.3.3.2 Functional Test Specification

1. Test Case No: DT-01

1.1 Test Description:

Functional Test done by efficiency senior engineer expert on tutorial functions of DT-01

1.2 Assumption:

Attendants are Knowledge Workers who participated in Knowledge Elicitation and Modeling Process.

1.3 Test Case Examples:

Cop Specific Functional Testing

Feed Back:

Table 7.2 Functional Test Specification

Issue	Proper	Fair	Poor	Comment
FS-1 Administrative Function				
FS-1.1 Manage User - Application Administrator - Contributor Role - Content Manager - Reader		X		
FS-1.2 Manage Area - CoP Based Security		X		
FS-2 Community Function				
FS-2.1 Topics of CoP	X			
FS-2.2 Areas - Top Frame - Middle Left Frame - Middle Right Frame - Bottom Frame		X		
FS-2.3 List of Knowledge Base				
Document Library for Knowledge Map		X		
Document Library for Document Management System (Repository)		X		
View Page Web Part for Document Management System in each Cynefin Classification	X			Associated with Color Code Coordination Schemes
View Page Web Part for Document Management System in each Cynefin Classification	X			Associated with Color Code Coordination Schemes
General Discussion Forum		X		
Contacts		X		

Feed Back:

Table 7.2 Functional Test Specification (Continue)

Issue	Proper	Fair	Poor	Comment
Link		X		
Document Library for Case Studies		X		
Knowledge Map Instruction and Help for Knowledge Worker		X		
FS-2.4 List of Decision Support for Collaboration				
View Page Web Part for Knowledge Map	X			
Tasks for Manager to Conduct CoP	X			
FS-3 Knowledge Worker Service				
User Profile	X			
Shared Workspace	X			
Shared Document	X			
Shared Link		X		
Calendar		X		
News		X		
Links Summary		X		
Links	X			
Alerts Summary		X		
Private Documents	X			
Shared Documents	X			
Figures				
FS-4 Search CoPs				
Search by Name	X			
Search by Code	X			
FS-4.1 Advanced Search				
Search by Type	X			Advanced CMS functionality
Search by Properties (Description)	X			
Search by Date Modified	X			
FS-4.2 Meta Data Search				
Search by using WebDAV	X			Advanced CMS functionality

Feed Back:

Table 7.2 Functional Test Specification (Continue)

Issue	Proper	Fair	Poor	Comment
FS-4.3 Content Search				
Content Search (Microsoft Product Only)	X			Advantages of Microsoft Products which widely used
FS-4.4 External Content Search				
External Content Search		X		

Question:

N/A

Logging System:

Microsoft SharePoint System Console Logging

7.3.3.3 Operational Test Specification

1. **Test Case No.:** OT-01

1.1 Test Description:

Operational Test done by efficiency engineer on real environment.

1.2 Assumption:

Attendants are Manager, Expert and Knowledge worker who participated in each activity.

1.3 Test Case Examples:

Cluster Initiation Criteria (with CDA/ Cluster Participation)

1. Objectives Reviews (Preparation)
2. Mobilization (Meeting, Follow up)
3. Strategic Development (Decision, Problem Solving)
4. Implementation Plans (Meeting, Progress Report, Problem Solving)
5. Cluster Implementation (Project Management) Postpartum (Final Report, Follow up)

Feed Back:

Table 7.3 Operational Test Specification

Issue	Proper	Fair	Poor	Comment
OT-1 Objectives Reviews				
Preparation	X			General Framework Overviews
OT-2 Mobilization				
Meeting	X			Knowledge Map Boundary
Follow Up	X			Check Points
OT-3 Strategic Development				
Decision		X		Reasoning Base
Problem Solving		X		Case Studies Adaptation to the Local Environment
OT-4 Implementation Plans				
Meeting	X			Initiation Boundaries
Progress Report		X		Check Points
Problem Solving	X			Social Issues Engagement
OT-4 Cluster Implementation				
Decision		X		Motivation Issues
Problem Solving		X		
OT-5 Postpartum				
Final Report		X		Conclusion Outcome Compare with Specific Objectives
Follow Up		X		

Question:

N/A

Logging System:

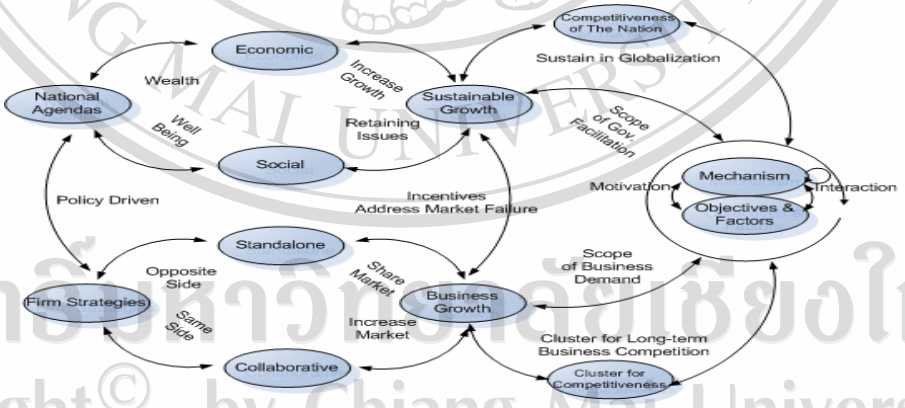
Microsoft SharePoint System Console Logging.

7.4 Summary Indicators of The Results

Cognitive KMS System was developed based on CogKnOS model as the result from the proposed framework from this research. This is an outside thinking looking-in result which can be significant improve the multiple complex objectives implementation. Even if, the result from these case studies were modeling based on a few cognitive chronic situations. However, this model can be generally applies in a wider areas of implication which will be discussed later on the later chapters. The indicators measurement of the result analysis of this research was base on theoretical model concepts among a few other indicators. And, this research was embedded within the boundary of decision making rather than the scope of uncertain outcomes. But, the analysis conducted on the data acquired from the KMS implementation yielded significant results. It helps users understand the world renowned theories learning process in which the outcome drastically depended upon the locality distortion. In any case, this research had at least aligned new strategic thinking into the develop process and constantly reminded the CDA to mentally adjust within the scope of works, objectives and theoretical framework. The following is the result measurement indicators.

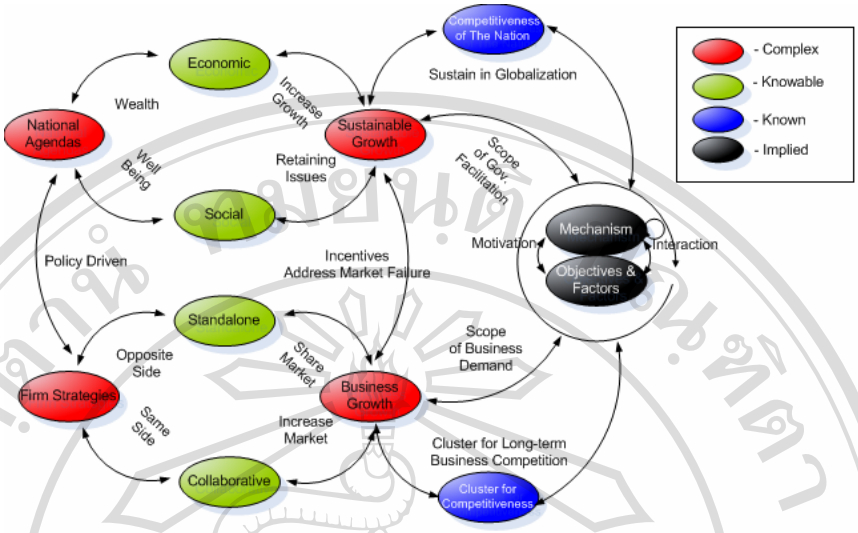
7.4.1 The Strategic System Thinking of Cognitive Cluster Indicator

System thinking of Cluster System (Figures 7.4) illustrated the consolidation of knowledge network to improve the understanding of competitiveness concept and spirally reduce the confusing circle. The validation of the hypothesis can be conducted by remapping of the contributing factors with the appropriate subsystems illustrated as followed.



Figures 7.33 Dynamic System Knowledge Map
Source: Tamprasirt, 2007

With the implementation of the Cognitive Cynefin Framework into the color coded **Knowledge Flow**, KMS (Figures 7.5) can be developed as the result of cluster system thinking. The test result of this knowledge map confirmed the hypothesis of this research finding an alternative mechanism to effectively dealing with the dynamism of a large numbers of almost infinite cluster externality as suppose to extending the scope of defining controllable elements into infinite boundaries.



Figures 7.34 Cognitive Cluster Knowledge Map
Source: Tamprasirt, 2007

7.4.2 Theoretical Indicators

This summary table (Table 7.1) below demonstrated the bi-polar extremes and Cynefin framework conformance indicators

Table 7.4 Theoretical Conformation

Cynefin Complexity Reduction	• Cluster Theoretical Selection • Business Upgrade • Cluster Decision Approaches • Best Practice Selection
Bi-polar Extremes	• Product VS. Process Derivatives • Short win business survival VS. Understanding Long-term Benefit Mobilization • Social Induction Learning VS. Cluster Process Education • Grass Root Social Participation VS. SME development Criteria