Research Report

Cross-Border Value Chain Bottlenecks in the Southern Economic Corridor (SEC)

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Cross-Border Value Chain Bottlenecks In the Southern Economic Corridor (SEC)

Under the Project on "Enhancing Competitiveness of SMEs in the Southern Economic Corridor (SEC) of ASEAN Mekong Sub-region (AMS)"

Submitted to Mekong Institute

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Abstract

This research reveals the bottlenecks of value-chain in the Southern Economic Corridor (hereinafter is referred as "SEC") in the Mekong sub-region and then to recommend five feasible and effective policies for overcoming these challenges and then to create new cluster alongside SEC.

Therefore this research, first of all, shows the background behind the SEC recently, especially the industrial structure transformation in this region though a variety of analysis tools such as "industrial missing link."

Though the results from the actual running survey alongside the SEC, we can understand the SEC is now going to become to be implemented as connectivity and then to be emerged an innovation hub in the world rather than just a sub-contractor. This message should be posted into the discussion.

And then, comparing with almost all previous literatures, this survey will focus on more subjective notion or strategy of each cluster's stakeholders rather than objective viewpoint from outsiders, while introducing Analytic Hierarchy Process (hereinafter is referred as "AHP" method. This approach can contribute toward the construction of the platform of clustering in the SEC because people who are responsible for developing each cluster are driving force for clustering rather than the policy measures, from some clustering experiences in Japan. In this regard, it can also bring the comparison with Japanese clustering cases as well as regulatory environment behind the clustering alongside the SEC.

This means, at the same time, the regulatory environment is now slightly transformed as a de-facto driven mechanism caused by the private sector rather than the public sector which was already examined through a variety of previous studies.

Finally, it should be registered by the five significant and more concrete or practical policy recommendations for clustering in the SEC, or, in other words, overcoming the bottlenecks of value-chain in this corridor: BDS Standard or SINDAN; Biz-Aca Standard or Nagasaki Breakthrough, Local to Local Approach or Otagai Forum, Mezzanine Level Infrastructure or Roadside Station, and SEC GO! or new platform for comprehensive innovation hub.

Key Words

Southern Economic Corridor (SEC), Business Development Service (BDS), Harmonization of industrial policy, Corridor Approach, Trans-Border Cluster, Industrial Vision, Clustering, Structured Overview, Cluster-Linkage, Connector, Biz-Aca Cooperation, Local-to-Local, Otagai Method, Value-chain finance

Abbreviation

ADB	Asian Development Bank
AHP	Analytic Hierarchy Process
BDS	Business Development Service
FDI	Foreign Direct Investment
IoT	Internet of Things
JAIF	Japan – ASEAN Integration Fund
MI	Mekong Institute
ML	Missing Link
SEC	Southern Economic Corridor
SME	Small and Medium sized Enterprise
WEC	Western Economic Corridor

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Background

Structural Change of Mekong sub-region in "AEC Beyond"

Periphery seems to become a hub for the regional economy in ASEAN. After the establishment of ASEAN Economic Community (Hereinafter is referred as "AEC") in the end of 2015, cross-border trade and some periphery areas become more attractive and more significance for business activities in ASEAN. "Periphery to Hun" – this is one of the most accurate phrase for expressing these areas.

For instance, Thailand has already introduced a policy package for enhancing competitiveness of these border side areas especially in parallel with a phenomena of "Thai plus One." What is "Thai plus One?"

Without understanding "Thai plus One," we cannot understand the dynamic transformation in the SEC. It is recently observed that the phenomena of "Thai plus One" is being spread in this region in line with Thai's overcoming "middle income trap[i]." "Thai plus One" seems to come from reaction against "middle income trap" in Thai's changing industrial structure.

The term of "middle income trap" is defined as a country facing to lost their advantage of cheap labor force without any seed of innovation which can assist their new economic grow path near future, when these countries enters into the gross national income per capita range around 1,000 to 13,000 USD defined by World Bank in 2017[ii].

Table 1. Criteria for Income Wise

	Bottom (From) in US$	Top (To) in US$
1. Lower middle – income economies	1,026	4,035
2. Upper middle – income economies	4,036	12,475
3. Higher-income economies	12,476	More

Reference: This sheet was based on World Bank Database in "World Bank Country and Lending Groups[iii]"

Thailand has already entered into the upper middle income countries in 2010[iv] when this phenomena of "Thai plus One" is approaching into the center of issues in the industrial structure transformation in the former half of 2000s. "Thai plus One" means existing companies, especially these Japanese companies in Thailand allocate their business resources and shift some labor intensive functions of manufacturing from Thailand to neighboring countries such as Myanmar, Cambodia, Lao PDR even in

Vietnam in the former half of 2010s when legal minimum wage was decided to be lifted.

This statuary minimum wage policy became a trigger to encourage "Thai plus One" for seeking cheaper labors in the neighboring countries of Thailand. Therefore, this phenomenon essentially has happened only in the labor-intensive sectors and typical examples are found in these Japanese companies below:

Table 2. Cases of "Thai plus One"

Company Name	Location	Production	The Number of Employee
YAZAKI	Koh Kong, Cambodia	Wire Harness Auto Parts	600 from the beginning
Nidec Corporation	Poipet, Cambodia	HDD Parts	5000 in the phase III
TOYOTA BOSHOKU	Savannakhet, Lao PDR	Sheet Cover Auto Parts	180 from the beginning
NIKON	Savannakhet, Lao PDR	Entry model Lense	800

Reference: We can understand the spreading the companies' satellite in the SEC of these web below[v]

Even though Auto parts, "Sheet Cover" belongs to the labor-intensive process. These companies requires cheaper and increasing the number of labor forces in the border area of the neighbor countries. They just pass over the border and then to set up their satellite factories and logistics between the center factory in Thailand and their own satellite factories. That feature is easy to be understood when comparing "China plus One" phenomena.

"Thai plus One" companies are usually moving looks like "inchworm[vi]" behavior rather than "butterfly" behavior, which just only pass the border, not directly to the capital of each country, such as Phnom Penh and Vientiane. This strategy can enjoy these better transportation infrastructure in Thailand from the location of the edge border, at the same time, it can also take benefits from cheap labor force from another side of passing the border. "Thai plus One" is rather artificial and is promoted by the Government of Thailand in order to avoid "middle income trap." Therefore "Thai plus One" seems different from "China plus One" phenomena in 2000s and we can find some evidences for such official cooperation for "Thai plus One" promotion from the government.

This Thai policy can inspire a couple of implications below: This phenomena is the same situation of "Maquiladora" special economic zone in Mexico in which the U.S. companies passed over the border with Mexico and then to set up the labor-intensive factories there. And it is very controversial in the U.S. political arena just after the new administration of the President Donald Trump.

In this way, countries of the Mekong sub-region are facing this new trend – "Thai plus Ona." Therefore it is time to create new cluster in the border area. This is the background behind this survey. This movement of industries may also well conflict with conventional business community with political agenda but a case in Thailand relatively be made in success. Also this type of "X plus One" can be observed in any countries when the country takes a step up in their economic development. Even in Japan, Japanese foreign direct investments expanded in line with such a rule of "X plus One."

Table 3. "Thai plus One" vs "China plus One"

	Thai plus One	China plus One
Term	Since 2008, Lehman Crisis, it started and East Japan Mega Earthquake and Mega Flood in Thailand in 2011 promoted this phenomenon and then the new policy of Thai Government ordered to increase the statuary minimum wage in 2012 to 2013.	Since the early era of 2000s * Mr. Shu Watanabe, CEO & President of JETRO at that time, was regarded as a Godfather of this phenomena as "China Plus One."
Destination for "plus One"	Relatively low wage countries (Neighbor countries such as Cambodia, Lao PDR, Myanmar and Vietnam)	ASEAN (Thailand as one of the candidates) and India
Features of new Factories	Satellite Factory	Replacement of Main Factory
Tendency	Active	Passive
Purpose	Optimization of each product process wise	Risk management (Distribution of risk)
Benefit	Low wage labor force & Privilege such ask special custom duty	Avoidance of political risk

Reference: Author

Global Context behind AEC

The concept of border area seems to be a slightly changed in line with the "international trend community." After the rising of Trump Administration in the United States, trend of economic integration or trade harmonization is facing serious challenges under the preference of some domestic agenda. Trans Pacific Partnership (TPP) is one of the typical examples in this context.

North America Free Trade Agreement (NAFTA) is now going the serious milestone whether it is going on or is abolished soon. Maquiladora is one of the most typical cases behind this situation. Before the Trump administration in the U.S., The U.S. trade policy especially in the border with Mexico to become more protect against Mexico goods based upon the labor intensive industries. Maquiladora could enjoy the benefit from the division of labor across the border; for the one side they can set up assembly function in the U.S. which has good advantage from the proximity to the mega consumption site in the U.S. mega cities and on the other side, they can collect a variety of parts in Mexico. In this function of Maquiladora, it is also emphasized about the outer-link connectivity infrastructure around the Maquiladora as well as Human movement between both countries. This human moving can bring any information about the improvement of production function as implication of production skills in this region[vii].

Restructuring of Japanese FDI Production Network and Clustering in regional phenomena

Almost all has mentioned Japanese Foreign Direct Investment Network in ASEAN, especially in the Mekong sub-region.

Before the argument of this topic, it is necessary to reveal the background behind these cluster linkage. It must also review the past and current trend of Japanese Foreign Direct Investment (hereinafter is referred as "FDI") in the Mekong sub-region. This was drastically changed during the former half of 2010s, from2010 to 2015. This new trend in this paper should be called as "de-Japanization" in comparison with the previous "Japanization" or production network model based upon the spread of Japanese supply-chain network under the Japanese multi-national companies, especially from auto mobile industry's vertical maker-subcontractor relationship or so-called "KEIRETSU" system[viii].

In other words, in the heyday of Japanese giant makers spreading their own production network in the emerging Asia which is regarded as "fragmentation and agglomeration", this fragmented production network of these companies ironically helped to develop each cluster development with cluster linkages in the transformation from inter-organizational connection toward intra-organizational linkage within the emerging Asia. This will become one of the serious threats to these companies in accordance with the emerging cluster which can graduate from "KEIRETSU" and independent from the power of mega companies' control. In this way, a new procurement networking is gradually emerging in this region (See Figure 2: Fragmentation towards Cluster Linkage).

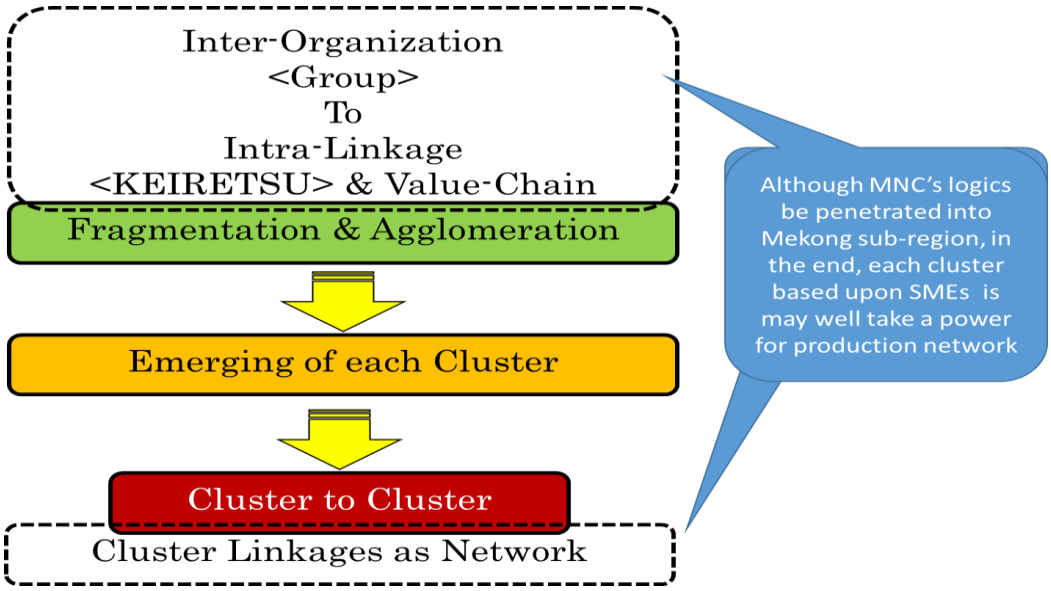


Figure 1. Fragmentation towards Cluster Linkage
Reference: Author

Japanese SMEs investment, to be honest, is increasing in Thailand recently. For instance, the number of Japanese SMEs which has already invested into Thailand during 2010 to 2014 was increasing. Comparing the previous generation during 1995 to 1999, when more than half of the entire companies belonged to big company category, but the figure of SMEs companies during 2010 to 2014 was 362 companies rather than 276 companies belonging to the big company[ix].

"March 11," or mega earthquake and tsunami in Japan and mega flood in Thailand which occurred in the same year, 2011, could also come up with the new landscape of the Mekong sub-region-Japan industrial relationship. Both severe natural disasters cut down the supply chain or "KEIRETSU" production network in the Mekong sub-region at that time and these disasters made private companies awake more business continuity plan or contingency strategy for this supply chain. It means that Japanese companies tried to build up the backup system for production, on the one hand, and then to stop the relationship of "KEIRETSU" system under the logic of capital. The redundancy of production backup brought more costly plan, on the one hand, and multi-national companies, on the other hand, could not maintain the previous strong tie with Japanese sub-contractors under the system of KEIRETSU or designated factories registration. They were changing their mind to let their sub-contractors be more freely from these multinational makers. For example, POSCO, Korean steel company, was suddenly invited to KYOHOKAI, auto part sub-contractors' association under Toyota since April 2012 which means TOYOTA got free hands for their procurement from not only Japanese steel makers but also from multiple options for steel as upstream of auto manufacturing[x].

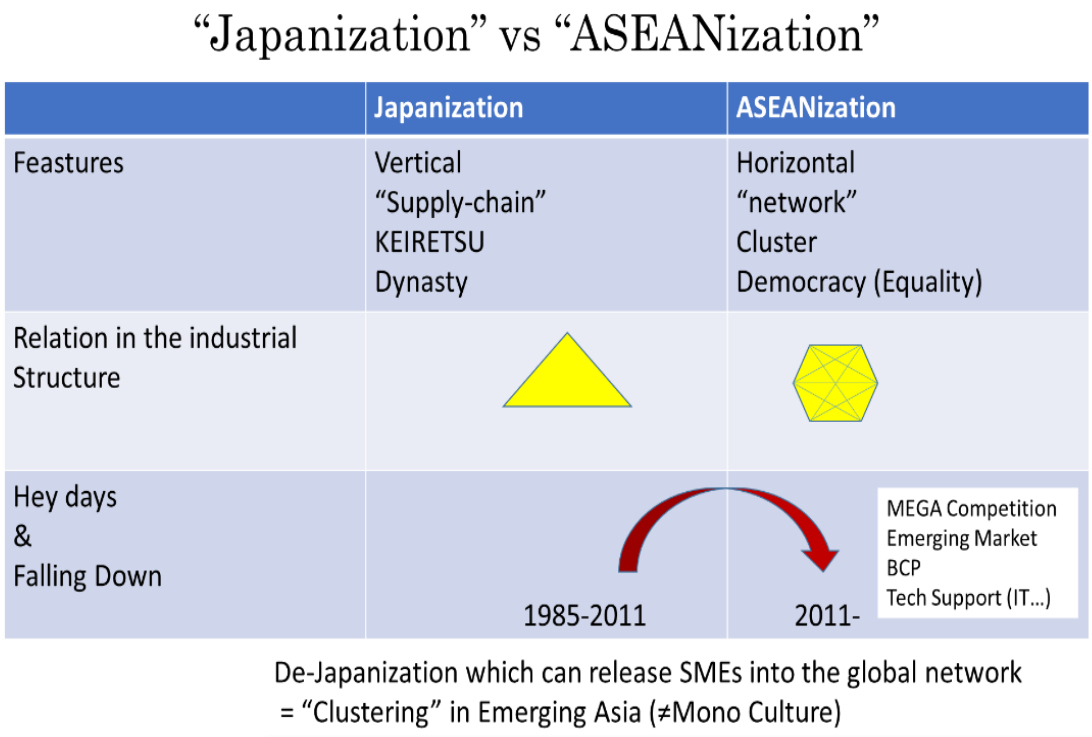


Figure 2. Changing the Trend of Industrial Structure in Thailand
Reference: Author

In this way, we can find the tendency of transformation from KEIRETSU to Cluster around 2010. However, the term of "Cluster" seems a bit ambiguous definition. In this paper, "Cluster" will be defined as each local industrial accumulation which refers to Japanese Cluster and Thailand 4.0.

Introduction of Project on "Enhancing Competiveness of SMEs in the Southern Economic Corridor (SEC) of ASEAN Mekong Sub-region (AMS)

Funded by the Government of Japan through Japan-ASEAN Integration Fund (JAIF), the Mekong Institute (MI) is implementing a two-year project on "Enhancing Competitiveness of Small and Medium-sized Enterprises (SMEs) in the Southern Economic Corridor (SEC) of ASEAN Mekong Subregion (AMS)" for the period 2016 – 2018. The Project is implemented with the collaboration between MI and its national and sub-national stakeholders in four project countries along the SEC, namely Cambodia, Myanmar, Thailand and Vietnam (CMTV).

The project development goal is to contribute to the rapid economic development and inclusive growth in project provinces in the SEC through the promotion of trade and investment in the SEC with specific focus to enhance competitiveness of small and medium-sized enterprises (SMEs) to conduct cross border trade and investment and integrate into cross-border industrial clusters, regional and global value chain.

The project development outcomes are as below:

- SMEs in selected border locations increase profits and employment through participating in SME clusters / networks, and integrating themselves into vibrant regional / global value chains;

- Inter and intra trade and investment at the project locations increase through active involvement of both public and private sectors in organizing a series of trade and investment promotion events and utilization of the web-based SEC profiles and SME database to attract regional and international investors;

- BDS Providers, including Chambers of Commerce and Industries (CCIs), SME Associations, Banks, and Logistics providers, deliver demand-driven business development, trade and investment services through the enhanced business linkages and information networks along the SEC of the AMS.

The project covers 19 provinces comprising of 8 provinces on the Central Sub-Corridor (Banteay Meancheay, Battanbang, Pursat, Kampong Chhnang, Svay Rieng, Prachinburi, Sa-Kaeo and Tay Ninh provinces) and 11 provinces on the Coastal Sub-Corridor (Koh Kong, Kampot, Preah Sihanouk, Tanithayi Region / Dawei, Kanchnaburi, Ratchaburi, Chanthaburi, Trat, Kien Giang, Can Tho and Ca Mau provinces) of SEC connecting CMTV, excluding the capital and mega cities. These provinces have been chosen in line with the criteria: (i) less developed status; (ii) strategic locations promoting inter and intra trade along the sub-corridors; and (iii) industrial development potentials.

Research Perspective and Methodology

Research Perspective

Although the purpose of the research must be to become complex amalgam which consists of three dimensions, it can carry three significant purposes: cluster development; cross-border issues; and then enhancing industrial connectivity alongside the SEC.

Therefore, although the first aim of the research may focus on the cross-border bottlenecks in the SEC, Mekong sub-Region, the main purpose of the research should reveal the actual situation and essential function of the SEC and then come up with some business solution or policy recommendation, in order to enhance competitiveness of SMEs in the SEC. While focusing especially on more effective ways of solving these bottlenecks, it will emphasize upon more practical measures and show a proactive action plan in the conclusion. This is why the research itself should be not just a paper work but more interactive conducting this research.

In addition, we should devote to discover how cluster linkages can be established between the SEC clusters and clusters in Japan (raw material, technology, incubation, skill, R&D, marketing, and etc.). This would be an input for the ongoing SEC business database component on Technology collaboration.

Under these criteria above, this research consists of three parts as below:

First of all, this will provide the best practices in the **Step 1** to cover the Japanese experience for setting up industrial clusters. In this session, this research will cover TAMA cluster, Kyoto SHISAKU network, as well as OVOP (it stands for "One Village, One Product Project") as some category of Japanese clusters (See Chapter8).

In the **Step 2**, this research will focus on the cross-border value chains and trade issues based upon its observation as narrative approach. In this session, we will understand the positive aspect of cross-border issues on the one side, and on the other side, it will reveal the negative side for cross-border issues such as challenges and difficulties (See Chapters 7 and 9)

Finally, **Step 3,** this research can investigate enhancing industrial connectivity under the SEC, which includes intra and inter cluster linkages in the SEC (See Chapter10).

We can get a perspective on this research through the figure 3 below:

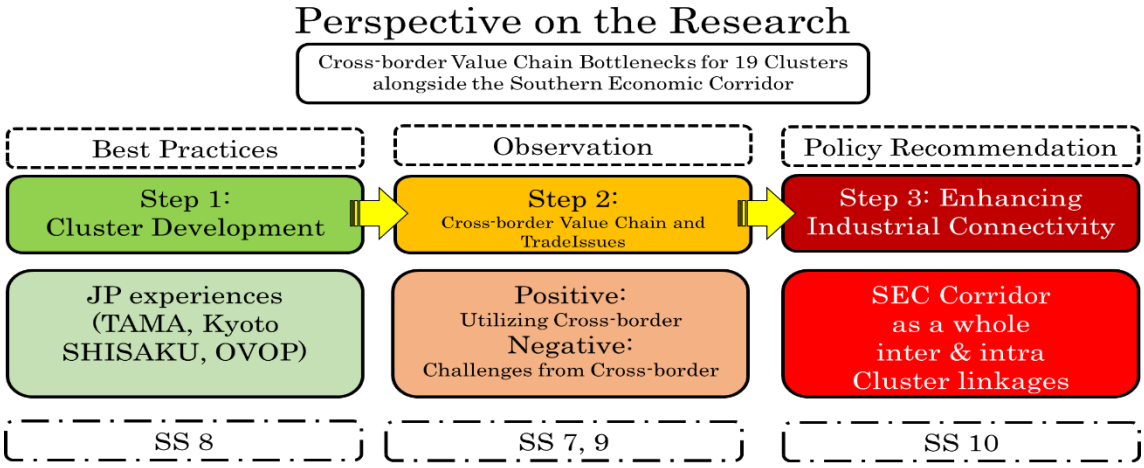


Figure 3. Perspective on the Research
Reference: Author

In other words, while the research consists of 5 parts, this will emphasis on three significances: a) industrial vision for the SEC; b) analysis on regulatory environment and policy measures included with the incentive mechanism for sustainable ecosystem; and c) "clustering", to some extent, as more dynamic approach for building up more competitive value-chain along the SEC, based upon three

measures: SME Cluster promotion; Public-Private-Partnership; and training Business Development Service (Hereinafter is referred as "BDS") providers, which are mentioned in the cooperation document edited by Mekong Institute.

It should be, first of all, kept in mind that industrial vision for the SEC, especially for the connectivity of each specific cluster and harmonization of industrial policy from each country, even though our target is to enhance the competitiveness of each specific food-process and agriculture industrial cluster in each border site. This is the accurate significance of "Corridor Approach" as for development of trans-border clusters. In this regards, this research will refer some outcomes from prior study conducted by Mekong Institute, such as "Cluster Mapping," as well as Japanese policy experiences or the other Asian Countries examines such as in India and in Indonesia which can bring some appropriate examples both for success and fail.

Secondly, in terms of regulatory environment analysis, this study can describe more sustainable and feasible mechanism which is able to facilitate incentive or disincentive to each stakeholder. It means that the combination of public and private sector must be more important rather than pubic contribution alone such as public works and the other countries' supports. This approach can contribute toward appropriate institutional ecosystem this corridor as a whole.

In this research, it will finally discover some priority measures for "Clustering" as proactive approach. "Clustering" means not some statistic viewpoints of cluster but some dynamic analysis how to create more valuable combination among some stakeholders for future cluster development not only in each specific cluster, but also in SEC of AMS as a whole. As for revealing these points which mentioned above, this research will consists of 5 parts; (1) to assess the product value chains of the 19 SEC SME cluster; (2) to assess the cross border value chain bottlenecks; (3) to assess the regulatory environment for the trade of the specific products; (4) to identify grounds for policy changes for increasing cross-border trade; and, in addition, (5) to propose some concrete scheme or measures in order to enhance the competitiveness of SMEs in the SEC in line with three components under the ASEAN Cooperation Project Document: Capacity development for SME clusters / networks; Trade and Investment Promotion through Public and Private Partnerships; Strengthening BDS Providers.

Previous Literatures for Cluster-linkages in Mekong sub-region

Cluster Linkages

This cluster linkage is based on the private business relationship. In reality, previous linkage between Mekong sub-region and Japan were found in the vertical relationship, "KEIRETSU" system. Even doing in the arena of cross-border business, this was still inside the relationship of supply-chain of each multi-national company. It is time to start "KEIRETSU" system is now melting down. If we define "KEIRETSU" as

the fixed relationship among sub-contractors and makers, this system is slightly changed especially after the mega natural disasters both in Japan and ASEAN: March 11 or East Japan Great Earthquake and Mega flood in Mekong sub-region, especially in Thailand. Aftermath of these sever natural disasters caused to cut the global supply-chain and, at the same time, it forced the relationship under "KEIRETSU" to be more released and be free due to the Business Continuity Plan from the logic of multinational makers. So on the one side, "KEIRETSU" relationship became more obstacles against such a free relationship among makers and sub-contractors and, on the other side, sub-contractors are so far to be free from the "KEIRETSU" system to become new horizontal networking as clustering or cluster-to-cluster linkages.

You can clearly understand to overestimate infrastructure development rather than industrial linkage and to ignore its cluster linkage. Although discussion of connectivity usually focuses on the infrastructure or physical connection, however, from the viewpoint of avoiding "middle income trap," "industrial linkage" is much more prior rather than "infrastructure linkage." In other word, infrastructure connectivity seems like a "servant" and industrial connectivity must be a "host" or "Emperor" both of the regional economy as well as of the economic integration of ASEAN.

Re-examination about some prior researches around this topic and posting comprehensive analysis from official documents and statistics which Mekong Institute has already provided and in addition, it should be referred from the list of bibliography below. It is at the same time that this research will collect some opinions not only academia and research institutes but also some observers from some experts on each field. If it is possible, these resource people will be invited to the Field Work which follows Desk Study.

Clustering

In this way, we can find the tendency of transformation from KEIRETSU to Cluster around 2010. However, the term of "Cluster" seems a bit ambiguous definition. In this study, "Cluster" will be defined as each local industrial accumulation which refers to Japanese Cluster and Thailand 4.0.

Table 4: Comparison of Cluster Policy

	Feature	Nationwide or Regional	Agenda
Japan Cluster Policy	Sub-contractor to Tech SMEs, but just almost all is distribution policy	Regional	Regional Development
Thailand 1.0 & 2.0 Version	OTOP inspired by Japanese OVOP: Political legacy	Regional (Local)	Narrowing gap between urban & rural
Thailand 3.0 Version	Value Chain by Michel Potter	Nationwide	Preparation of post FDI driven economy
Thailand 4.0 Version	Thailand 4.0	Regional	Middle Income Trap

Reference: Author

Thailand 1.0, 2.0, 3.0, and 4.0 were already described in the address of Thai Prime Minister in the Board of Investment Seminar On February 2017[xi]. Although each version of Thailand does not reflect the actual historical sequence in Table 4 above, it may well explain the specific feature of each cluster.

In this way, the relationship between cluster and corridor should be defined in this research under the figure 5. We can clarify the relationship among the three layers: from corridor, or the SEC, to each cluster alongside the SEC via cross border cluster linkages. It is time to easily understand that our approach can focus on the mezzanine level between the SEC and each cluster. In other word, "OCCOP" should become key indicators for development. What does it mean for "OCCOP?"

OCCOP stands for One Cross-border Cluster One Product. It means our target should be such a specific product to reach to the new market especially in the global.

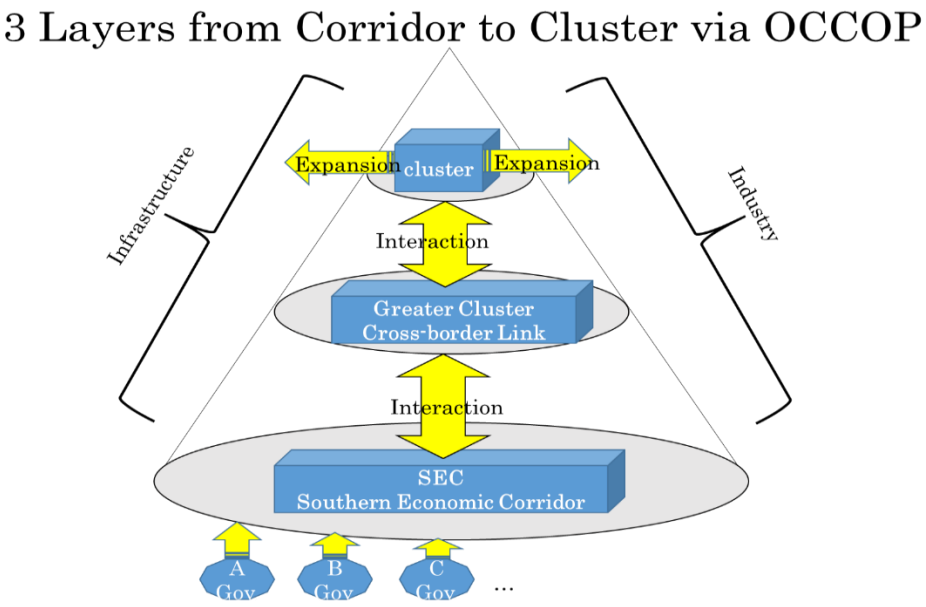


Figure 4. Outline of Corridor and Cluster

Reference: Author

Figure 5 Image of OCCOP
Reference: Author made it based upon the MI Research Concept Note

These three layers will be able to be supported both by infrastructure development and industrial connectivity. In this paper, it should be more stressed on the industrial linkage as for promotion of each cluster business communities, while connection between global and local.

It should be also shared the fact that the cluster itself is not existing one but potential cluster can be created while each cluster should be combined with a variety of elements of cluster, businesses, business development services and academia or governmental supports. In other words, cluster is not drawn as statistic picture but a dynamic video or "clustering."

Methodology for the Research

Observation of "Clustering" in each cluster

This research will consist of (i) desk study and (ii) field research with the following structure:

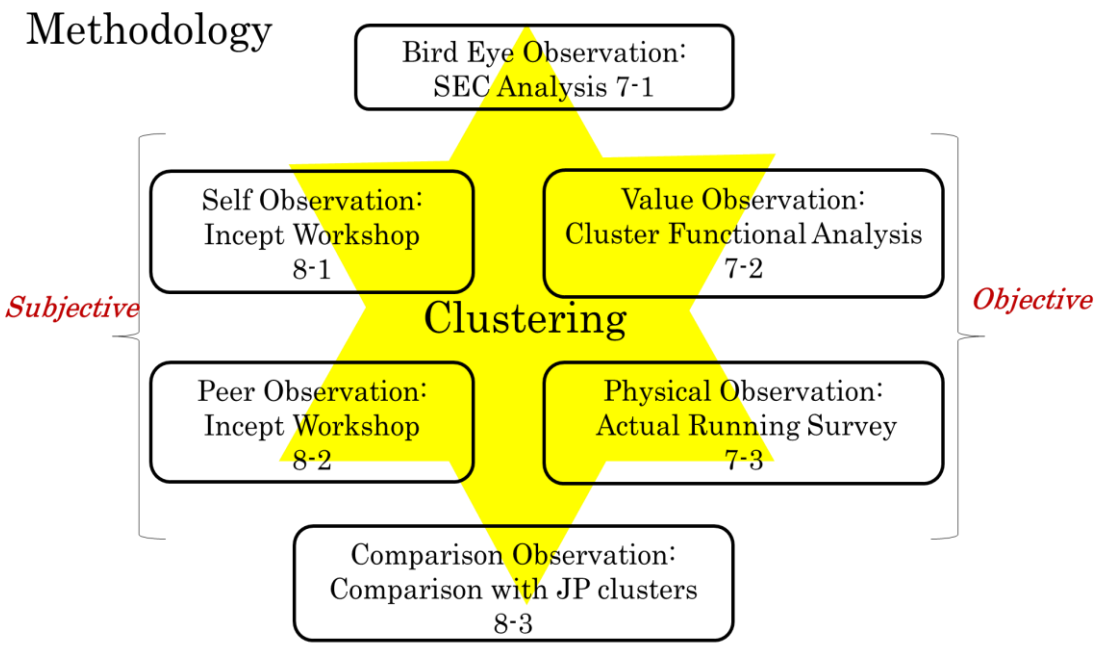


Figure 6 Methodology of the Research
Reference: Author

In this section, it should be revealed the distinction of clustering in the project based upon some lessons out of the previous studies. Almost all of the previous studies, unfortunately, intended to focus only on the description about the statistic situation of the SEC and each cluster potential more objectively, rather than the actual voices and the way of thinking from the stakeholders more subjectively. However, as Michael E. Porter (Porter, 1998) has already mentioned it, it is one of the most serious factors for actual people who commit to creating the network in the procedure of creating cluster, or clustering. So this research, first of all, should focus more on the notion of each stakeholder in the procedure of clustering and then to provide a comparison with more objective facts which follows some previous viewpoints of the prior researches.

In line with this reason, the methodology of this study combines two extremely different perspectives: objective method and subjective method. Although an objective method can carry on the statistics and evidence, a subjective method is able to analyze person's subjective idea or viewpoints. The latter one may say to be non-scientific and trivial. However in terms of the procedure of cluster-making or "clustering," subjective decision-making or subjective notion is vital to complete clustering in this field.

Therefore we choose the "Measuring Difference Method" of both sides viewpoints.

"Measuring Difference Method" for the distance between potential structured overview and actual situation of each cluster, in which it should be described as an

ideal image of each cluster from desk study, at the same time it should be also revealed about the real situation of each cluster by interview in each workshop.

Objective Method

As for Objective Method, "Cluster Mapping" which has been already conducted by MI and it should be utilized when it should be identified each specific cluster feature. Here is the list of each cluster feature to get a brief sketch for each cluster as below:

Table 5. Cluster Features in each site

Country	Province	Proposed Product Chains
Cambodia	Banteay Meanchey	Silk Production
	Battambang	Fresh Water Fish Sauce
	Pursat	Pursat Orange
	Kampong Chhnang	Pottery & Ceramics
	Svay Rieng	Rice
	Koh Kong	Sea Water Fish Sauce
	Kampot	Natural Salt
	Preah Sihanouk	Dry Shrimp
Myanmar	Tanintharyi (Dawei)	Mackerel (Pla Tuu)
Thailand	Chantaburi	Fresh Durian
	Kanchanaburi	Banana processing
	Prachinburi	Organic Rice
	Ratchaburi	Aromatic Coconut
	Sakeo	Aromatic Herb
	Trat	Community-based Tourism (CBT)
Viet Nam	Ca Mau	Dried Snakeskin Gourami (Pectoralis)
	Can Tho	Catfish
	Kien Giang	White (leg) shrimp
	Tay Ninh	Custard Apple

Reference: Author made it based on the Mekong Institute Report

Subjective Method

In terms of cluster development, it should be taken into seriously about the networking around each area. To some extent, in cross-border area, the cross-border cluster connection or network should be set up as the most significant factor against bottlenecks. In other words, it should be identified how much degree about the obstacles against connection between each cluster in between the cluster, so-called "Connectivity Method."

Self & Peer Observation

In order to identifying each significant bottleneck, it should be conducted about the" Peer Review Approach" which appears in the result of the inception workshop with voices from each stakeholder in each sector can be collected on the same issue.

In this research, it took a variety of inception workshops in each cluster site. There is a questionnaire which appears in the ANNEX. In this questionnaire, it has 10 questions in each inception workshop.

Question 1 draws their own portrait of each cluster's stakeholders and Question 2 also identifies their own business situation by themselves. Through these questions above, it will reflect themselves as each stakeholder in an individual cluster. This is the initial steps for clustering procedure more intentionally.

In the Question 3, it will discover each ideal direction for the trade or business connection both present and future in line with the cluster's viewpoint. This can contribute toward excavating the potential will of each cluster as a trade policy or business strategy.

During Question 4 to Question 8, we can provide some comparative viewpoints between people in local as cluster's stakeholders and clustering specialists which can easily let us understand the gap and lack of notion for development of clustering in each cluster.

Question 9 and Question 10 are finally going to find some tangible information about the connectors and challenge more as narrative ways.

Cross - Border Trade Direction

In this study, it should be apparently divided into regional connection with the cross border and global connection toward the cross border. It means that it should be categorized through the "Cluster Function Matrix" by global-local multiple market-production. Though this method, it can be more easily understood about the function of each cluster and cross border merits.

Overall Perspective both on Macro Viewpoints & "Comparison"

In terms of the methodology of overall perspective comes from the "industrial missing link." What is Industrial Missing Link? Actually Japan International Cooperation Agency (JICA) supervised by National Economic and Social Development Board (NESDB) of Thailand conducted a research of "Industrial Missing Link" in 2012 to 2013. "Industrial Missing Link" is defined as the void of segment in each production value chain in Thailand.

"Comparison Approach" among existing successful clusters in Japan and each cluster alongside SEC. Japan has not only "spot" cluster such as "OVOP" but also has industrial linkage cluster along the corridor such as TAMA, Ota district and Higashi Osaka. In this methodology, it can get more clear perspective on the cross-border clusters along the SEC as well as cluster itself.

Through both studies: Desk Study and Field Survey and some inception workshops, this research will be able to reveal the actual bottlenecks for promoting value-chain in the SEC.

Comprehensive Analysis for SEC Value Chain Bottlenecks

Potentials and Void of Southern Economic Corridor (SEC)

In this research, it is necessary to reexamine some significant factors about the cross border value chain in the SEC. The differentiations between the SEC and the Western Economic Corridor (hereinafter is referred as "WEC"), therefore, may well indicate more accurate features for SEC value chain and its bottlenecks.

Table 6. Differentiations between SEC & WEC

	SEC	WEC
Key Driving Force	Industry driven	Infrastructure driven
Location	Connection with Industrial Linkage	Centre in the Map
Development Initiative	Business-Private Initiative Bottom up	Governmental-Public Initiative Top down
Type of Development	de facto	de jure

Reference: Author

You can clearly understand to overestimate infrastructure development rather than industrial linkage and to ignore its cluster linkage. Although discussion of connectivity usually focuses on the infrastructure or physical connection, however, from the viewpoint of avoiding "middle income trap," "industrial linkage" is much more prior rather than "infrastructure linkage." In other word, infrastructure connectivity seems like a "servant" and industrial connectivity must be a "host" or "Emperor" both of the regional economy as well as of the economic integration of ASEAN.

"Industrial Missing Link"

As for the macro perspective, the concept of "industrial missing link" seems quite useful for analyzing the SEC.

Through the conducting interview survey as well as statistics analysis of each industrial sectors: Automobile, HDD, and white stuff. This study was successfully to demonstrate the "industrial missing link" which reveals some potential investment destination in Thailand. This can be synchronized Thai cluster policy recently[xii].

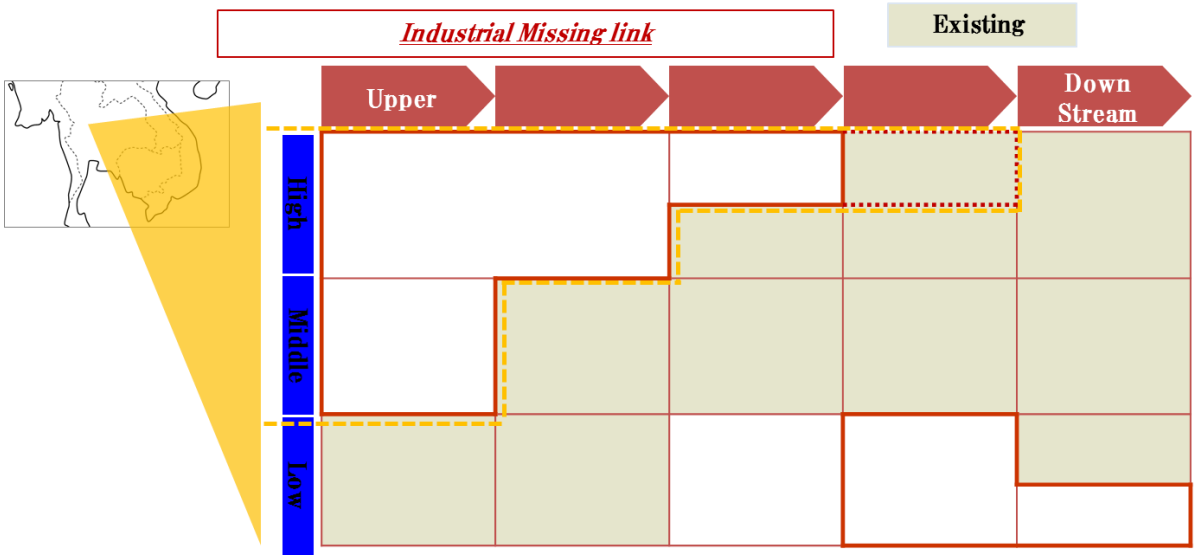


Figure 7. Concept of "Industrial Missing Link"
Reference: JICA-Deloitte Research (2013)

The concept of "industrial missing link" can also contribute to understanding how to avoid "middle income trap" through teaching which intermediate parts should be produced in Thailand. In this hypothesis, the targeting which intermediate parts should be domestically produced is regarded as one of the serious factors for robust economic growth from the situation of "middle income trap."

As for Thailand as an entry country for "middle income trap," they can easily to understand its own situation and learn where they should concentrate on the field of industry. On the contrary, they can release some specific fields of segments is more related to labor intensive procedure. This "Select and Concentration" strategy of each middle income trap country may well be effective to escape from this serious challenge.

This JICA-NESDB research pointed out some significant features of Thai industrial structure, especially from automobile industry. There are two types of auto component and a material identified as missing link: one is electrification part and the other is the integrated steel mill segment and the metal fabrication in the upstream of steel industry.

In terms of electrification auto parts, the trend of auto manufacturing is now transforming from more physical conventional power control to electric power control like from drive belt pump to electric water pump, and from hydraulic power to electric power steering.

Behind this changing of architecture of auto manufacturing, the previous conventional components factories hit by mega flood with serious damage. It was necessary to replace from conventional to new technologies. Therefore this changing trend coincidentally seems good fortune for Thai auto industry as a whole for catching up new innovation stage if they fill up this "industrial missing link" at that moment[xiii].

The other significant "industrial missing link" laid in the process of metal fabrication as well as a steel integrated mill in the top of upstream. This looked quite serious "industrial missing link" because it brought around additional cost to auto industrial due to import of the high grade qualified steel from Japan whose logistic cost added around 15 % rather than production in Japan.

Due to more energy conservation requirement, the tendency of the lighter, the better of steel for automobile body became the main stream to demand more metal fabrication procedure as well as such high grade qualified steel. You can find these "industrial missing links" in the figure 8: Results of "Industrial Missing Link," Figure 9: Import Value of Steel and Figure 10: Integrated Steel Mill Missing Link in Indochina below:

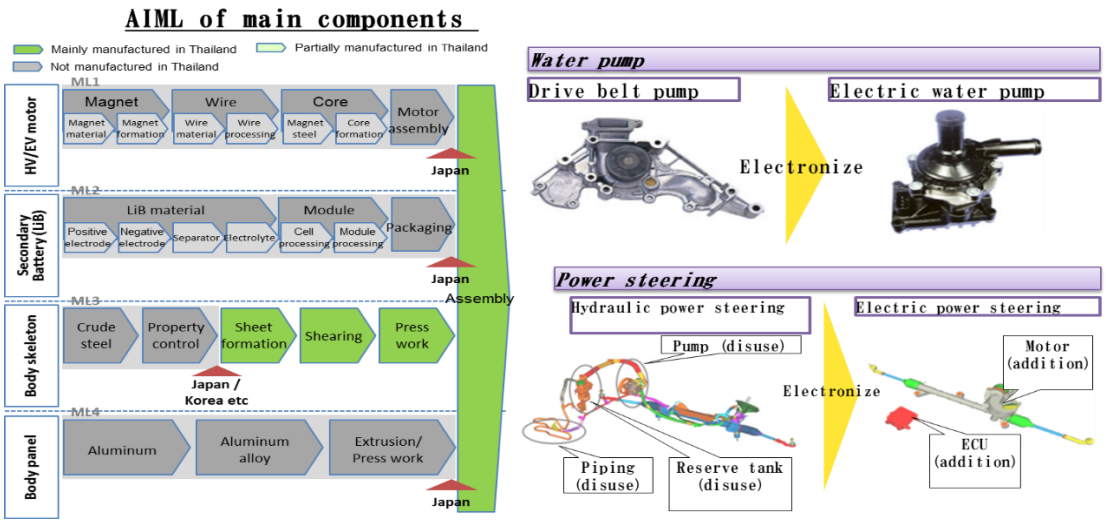


Figure 8. Results of "Industrial Missing Link" Survey
Reference: JICA-Deloitte Research (2013)

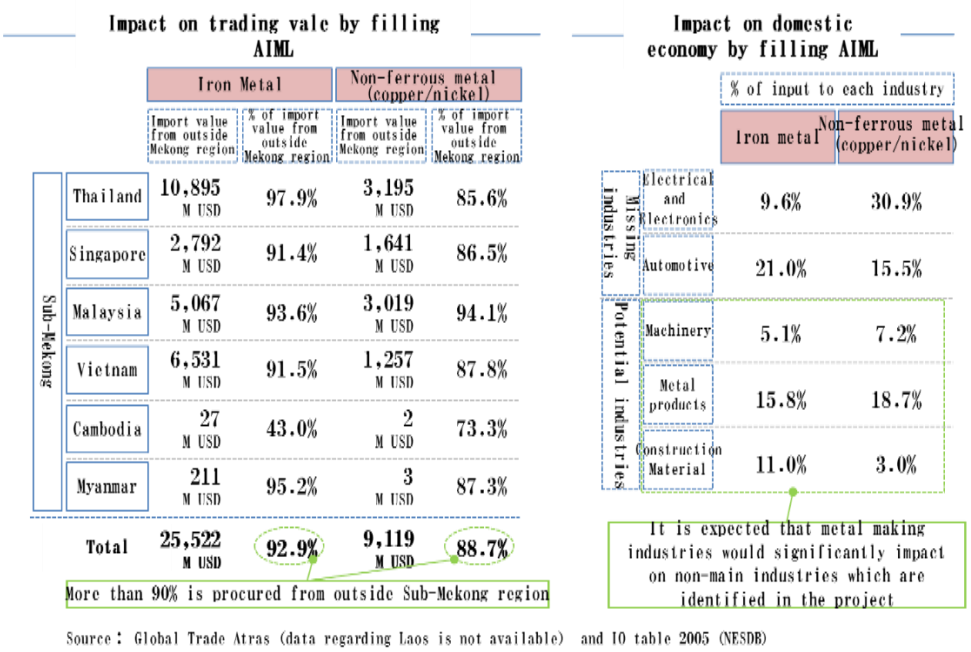


Figure 9. Import value of Steel
Reference: JICA-Deloitte Research (2013)

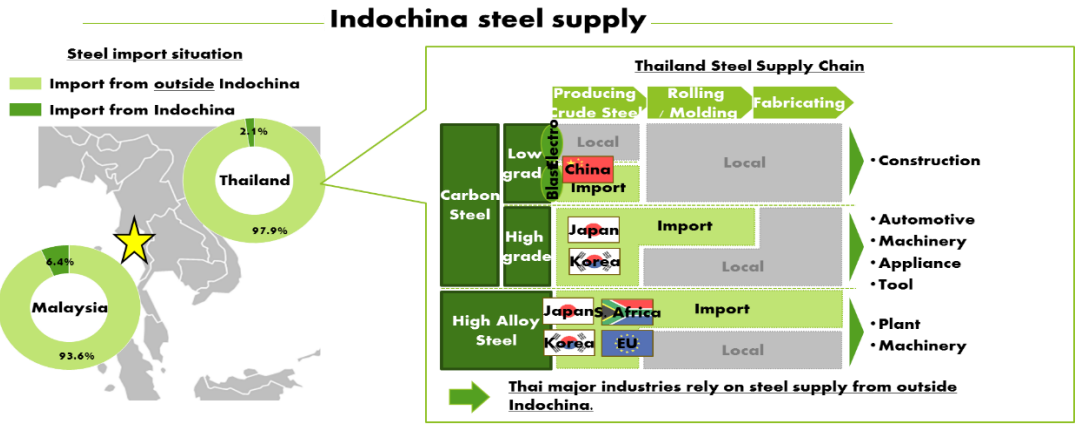


Figure 10. Integrated Steel Mill Missing Link in Indochina
Reference: JICA-Deloitte Research (2013)

Without acknowledging the trend of intermediate goods and its missing links, Thai cannot overcome their "middle income trap" and therefore the government of Thailand might well reach to provide new policy package, so-called "Thailand 4.0" with "Industrial Cluster"

Therefore innovation-driven development seems the best way to create new cross-border clusters in this region. This development can also provide an opportunity for inclusive development through getting new economic growth path and avoid some strong distribution policy which has exercised in Japan especially in the era of low economic growth ratio after 1973.

This way of innovation should summarize our agenda when it comes to development of Mekong sub-region below:

Table 7. Development for Cluster Direction

Agenda	Cluster Direction
Innovation Driven Development	Transnational innovation can create in the cross-border cluster linkage
Robust Development	Cross-border cluster is now emerging to be a hub of Mekong sub-region under AEC
Inclusive Development Regional Development	Cluster can focus on SMEs rather than giant companies and win-win development based on the cluster linkage
Sustainable Development Eco-Friendly Development	Cluster linkage can solve any challenge for sustainable development with introduction of any another cluster
Resilience Development	Sister cluster concept can overcome any difficulty in case of emergency in any natural disaster

Reference: Author

Advantages of Clustering in Mekong sub-Region Visualization of "Structured Overview of Industrial Cluster-Linkage"

It should be shared about the overall perspective about the accumulation of industry alongside the SEC. Some research institutes have already provided some econometric perspective as macro views onto the SEC. However, this is not so contributive towards the development of each industrial cluster alongside SEC because of the ignoring the mezzanine level of development. This study, therefore, will focus on this cluster level as a mezzanine level as well as micro level of each linkage of production network in order to do more proactive network from each industrial cluster. In other words, this study also provides more concrete measures or policy recommendation toward promoting each SME as well as enhancing the competitiveness of each industrial cluster.

To some extent, cluster is not a statistic entity but a dynamic structure and transforming day by day. Therefore it is rather emphasized that "clustering" must be more important than cluster as a statistic picture. In this regards, value-chain is also being changed from just a "chain" or vertical relationship to a network or "horizontal connection. This paradigm shift will be one of the most significant elements for enhancing value in this region from avoiding bottle necks in the SEC.

Results from Actual Running Survey

In this Research, our team has already conducted an Actual Running Survey from Dawei in Myanmar to Ho Chi Ming in Vietnam. This is the whole schedule for this research tour (See ANNEX).

In this actual running survey, we can get each lead time from one cluster site to another cluster site. Every site is found also in the map below.

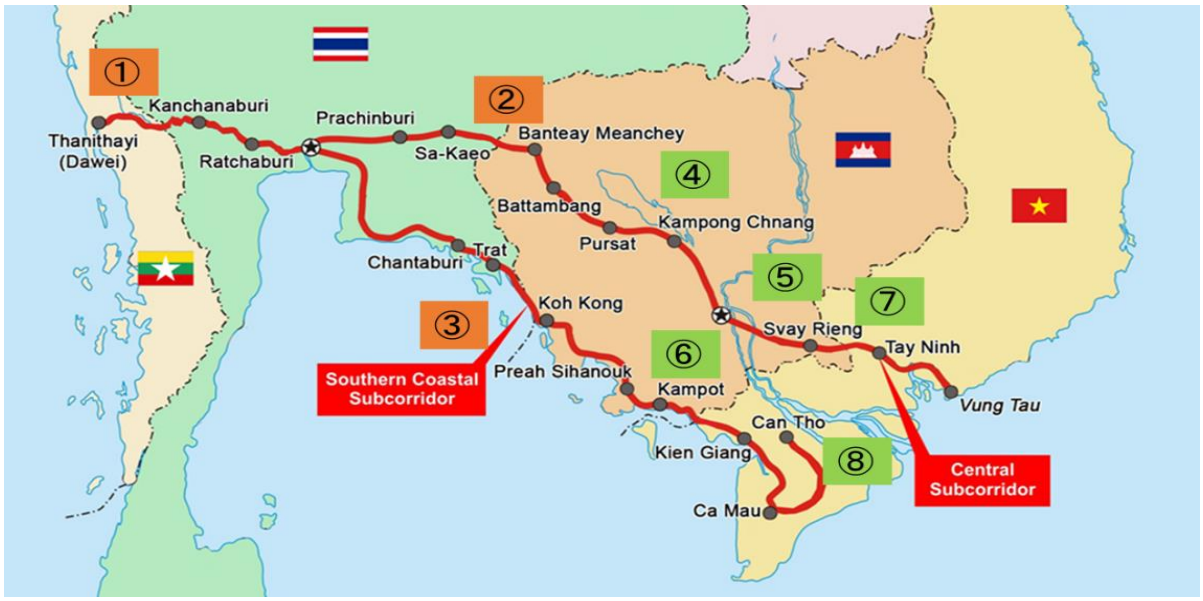


Figure 11. Map of Route for Actual Running Survey
Reference: MI Research Concept Note

Table 8. Lead time of each Route

FROM	TO	Lead Time
BKK	Phu Nam Ron①	2H30M
Phu Nam Ron①	Myitta①	2H30M to 3H
Myitta①	Daiwei①	1H to 1H30M
Kanchanaburi①	Sa-Kaeo②	6H to 6H30M
Sa-kaeo②	Banteay ②Meanchey	2H
Banteay ②Meanchey	Phnom Penh④	6H
Phnom Penh④	Say Rieng⑤	2H30M to 3H
Phnom Penh④	Kampot⑥	3H to 3H30M

Kampot⑥	Koh Kong③	3H30M
Koh Kong③	Trat③	2H
Ho Chi Ming	Tay Ninh⑦	2H30M to 3H
Ho Chi Ming	Can Tho⑧	3H30M to 4H

Reference: Author

After following some paragraphs, we can take a glance of each cluster and cross-border site and challenges as the in-depth analysis with narrative description.

Thai-Myanmar Border

Thai-Myanmar Border facility was recently opened but immediately to be developed for the passport control area as well as trade warehouse and storages as well as road construction. The fact demonstrates the enthusiasm of the Government of Thailand for the border development. Apart from these governmental efforts, private companies are also committing to some relevant businesses to cross-border trade and traffic such as photo shop, tourism bureau and restaurants.

Based on these facilities, tentative travel between Thai and Myanmar or "Border Pass and Temporary Border Pass" has been implemented in this area for increasing the traffic between the cross-border activities.

Actually author has already visited and passed over this border 5 times since 2012 from the beginning of Dawei Development, but this passport control has already provide completely efficient. According to these arrangements of facilities in the border area, the Myanmar tourists are now increasing as group tourist. Some tourists who come from Yangon to Dawei also choose to go round Kanchanaburi in Thailand as one day optional trip.

Figure 12.
Thai-Myanmar Border Area in Thailand
Reference: Author

Not only hard infrastructure development, operation or soft infrastructure is now reformed than previous time. For instance, this passport control sets now an open hour from 7:30 am, which can

contribute to easily and efficient transportation between Thailand and Myanmar. Therefore daily necessity is going from Thailand to Myanmar and Made in Thailand" is accepted as brand in Myanmar. In sum up, Traffic is so far not so bad but near future, it is necessary to expand these facilities in accordance with the increasing of border trade volume.

How about the Myanmar side - some parts of Myanmar facilities related to border control is still the same as 5 years back. However it will be improved within 5 years, cited by Myanmar people. On the contrary, custom house has been already established as new building.

Figure 13. Thai-Myanmar Border Area in Myanmar 1 (Left Side)

Figure 14. Thai-Myanmar Border Area in Myanmar 2 (Right Side)
Reference: Author

Passage to Dawei

From Thailand border to Dawei, the road condition is still developed as for tentative pavement. However, as for transportation purpose, it is no problem in comparison with the other roads in Asia such as India. Only a few points such as bridge facilities should be improved before completion of commercial transportation. Thailand government is now expressing their contribution toward developing the connectivity road facility between Dawei special economic zone (hereinafter "SEZ") and Phu Nam Ron, in Thailand border. However Japanese "Emergency Grant Aid" should be also utilized for the road between Phu Nam Ron and Myitta, not Dawei SEZ.

In this actual running survey, we can "discover" the new idea for connectivity, or "Myitta Route." Myitta Route from Myitta to Dawei City heart has been already developed with some expansion or widen for road construction and this route is a bit sideway when it comes to considering the way to Dawei SEZ. However this route has been already developed rather than the route between Dawei SEZ and Myitta. This research implies the route between Myitta and Dawei City heart as the most feasible

route. Therefore all stakeholders should reconsider to this route to be utilized for transportation.

Figure 15. Map between Phu Nam Ron and Dawei
Reference: Author

Thailand - Cambodia Border (Upper SEC Corridor)

Comparing the situation in 2012-13 (almost 5 years back), the passport control is upgrading from both side (Thailand and Myanmar) and smoother than before, even the situation is still messy. Officials both in the border have already gotten some experiences for managing traffic of border between Thailand and Cambodia.

As for more upgrading the border service as BDS, it should be done traffic rule and implementation. Especially traffic accident is so serious often to be stuck in the traffic. So in this actual running survey, we can find the clue for increasing traffic from the soft infrastructure development, rather than the hard infrastructure such as road expansion.

Figure 16 Thai-Cambodia Border Area (Upper SEC) in Cambodia 1 (Left Side)

Figure 17 Thai-Cambodia Border Area (Upper SEC) in Cambodia 2 (Right Side)
Reference: Author

Cambodia-Thailand Border (Lower SEC Corridor)

Koh Kong itself and Koh Kong SEZ is not so busy so far in comparison with the 4 to 5 years back when so many FDI come here to set up new factories including Korean company, Hyundai and Japanese company, Mikasa. However it is now to decrease their tension about the investment to this region. Therefore traffic volume is also shrinking in the border area as for trade or value chain development. Therefore it is very easy to understand the decrease the exchange between Koh Kong and Trat, especially for logistics.

Figure 18 Thai-Cambodia Border Area in Cambodia (Left Side)	Figure 19 Thai-Cambodia Border Area in Thailand (Right Side) Reference: Author

However it is now increasing cross-border tourists in the site. Trat has a plan to create Tourism Cluster in their own destination. Trat is now considering new Ko Kong Island after Ko Chang Island. However the travel cost from BKK to Trat is very expensive. Flight fee from Bangkok to Hong Kong is the same as Bus fare from BKK to Trat. It means domestic land operation between Bangkok and Trat in Thailand rather important than cross border passenger transportation. Therefore efficient and appropriate tourist bus system should be now required to be installed in this route.

Cambodia-Vietnam Boarder

Transportation infrastructure between Cambodia and Vietnam is being improved with "Tsubasa Bridge" over the Mekong River just after Phnom Penh Capital area. This river development changed the shape of SEC to fill up the missing link of connectivity between Vietnam to Myanmar. This bridge can create new trade traffic between Cambodia and Vietnam as for the new market access not only to the domestic market in each metropolitan area, such as Ho chi Ming and Phnom Penh, but also toward the global market via mega seaport both countries.

In sum up, the SEC as the economic linkage, can be implemented as a whole especially for hard infrastructure with filling up some crucial missing links. However it is also necessary to enhance the facility of soft infrastructure such as traffic control and transportation service with private activities.

At the same time, it should be emphasized that the road condition are qualified when it be considered transportation purpose rather than passenger transportation in comparison with the other area of the emerging economic area.

It is time to start to develop each cluster alongside SEC after the completion of hard infrastructure development. Following parts of this paper, it should be revealed as how to get clustering as a driving force of the cross-border value chain of the SEC.

Figure 20 Perspective on SEC Clusters
Reference: Author made it based upon the MI Research Concept Note

Table 9 Cluster Profile in the Research

Cluster	Product & Service	Technology & Know-how in need
Dawei	Mackerel	Cold Chain & Cold Storage
Kanchanaburi	Banana	Quality Control & Enhancing Functional Food and Value-Addition
Sa-Kaeo	Herb Soap	Package Development & Quality Control
Beanty Menchey	Silk	Sericulture 2.0
Koh Kong	Fish Source	Inspection & Value-Addition
Trat	Tourism	High-end Bus System
Savy Rieng	Rice	Enhancing Functional Food
Tay Ninh	Custard Apple	Preservation & Enhancing Functional Food and Value-Addition
Can Tho	Cat Fish	Fish Cultivation & Value-Addition
Kampot	Salt	Inspection & Value-Addition

Reference: Author

How to create a Cross-trans-border cluster

Self-Analysis: Results from Inception Workshop

Through this inception workshop, we can get a variety of voices for challenges and difficulties in each cluster. First of all, we can take a glace of these issues in line with the logic of "institutional Void" in this region. "Institutional Void" studied by Tarun Khanna, and Krishna G. Palepu (2010).

Pictures of each inception workshops in the SEC:

Figure 21. Inception Workshop in Dawei
Reference: Author

Figure 22. Inception Workshop in Kanchanaburi
Reference: Author

Figure 23. Inception Workshop in Sa-Kaeo
Reference: Author

Figure 24. Inception Workshop in Banteay Meanchey
Reference: Author

Figure 25. Inception Workshop in Koh Kong
Reference: Author

Figure 26. Inception Workshop in Trat
Reference: Author

Figure 27. Inception Workshop in Svay Rieng
Reference: Author

Figure 28. Inception Workshop in Kampot
Reference: Author

Figure 29. Inception Workshop in Tay Ninh
Reference: Author

Figure 30. Inception Workshop in Can Tho
Reference: Author

Table 10. List of Institutional Void for Producers

VOID	Procedure	Potential Japanese Cluster Partners
Poverty	Set up Circumstance	Big Companies
Technology Know-how	Innovation	SMEs with Only one Tech
How to get the Worldwide Standard	Production	SMEs with QC
Technology for Preserving Food	Production	SMEs with Food QC
Avoiding Chemical Usage	Production	SMEs related eco-friendly business
Quality Control Quality Assurance	Production	SMEs with QC

Branding	Marketing	Retails of Big Companies
Online Shop	Marketing	Retails online

Reference: Author

Table 11. List of Institutional Void for Business Development Service

VOIDs	BDS Category	Requirements
Legal	Lawyer & Advocacy	Trade & Global Business
Language	Interpreter	Multi-linguistic
Market Place Marketing	Consultant	Well-Know Global Market
Finance Investment Money Fund for Innovation	Banker & Financial Institute	Trade & Cross-border transaction
Logistics Transportation	Transporter	Land Operation
Human Resource Development	Education Institute	Transnational Skilled Labor

Reference: Author

Table 12. Trade Direction in the Cross Border Cluster

Category	Trade Direction	Clusters
L Type	Local	Tiny Ninh
		Dawei
		Sa Keao
		Trat
Balance Type	Production both in Local & Global	Banty Meanty
	Market both in Local & Global	
Global Market direction Type	Product in Local & Global	Kampot
	Market in Global	Koh Kong
		Svay Rien

Reference: Author

Question 3 indicates the future trade direction. If this scheme provides 5 cases:

Case 1: Intra Region Trade means that the cluster conducts trade activities only inside the region.

Case 2: Intra Domestic Trade means that the cluster transports their own items to the other domestic market.

Case 3: The 3rd Countries via Domestic, means that the cluster exports via the domestic port to the third country.

Case 4: Cross Border Trade, means that the cluster transports between the national borders.

Case 5: The 3rd Countries via Neighboring Country, means that the cluster exports it cross the border and then to re-export to the 3rd countries.

If you read the chart below, you can easily understand the relationship of each direction of trade.

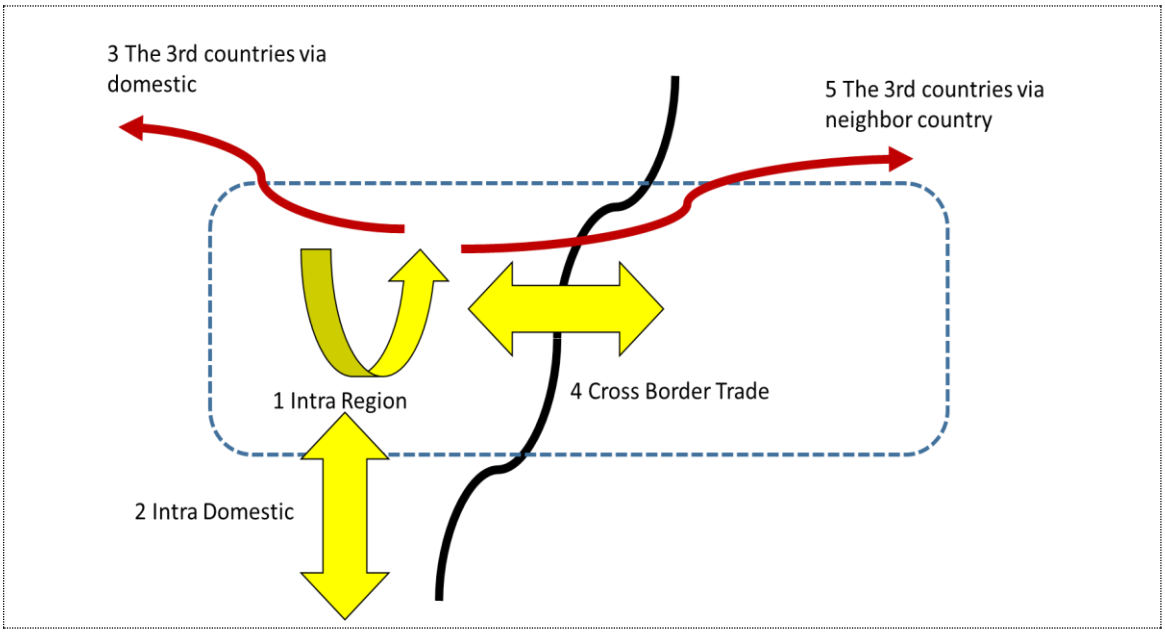


Figure 31. Structure of Trade Direction
Reference: Author

In this question, we can understand that the Case 1 and the Case 2 represent the domestic trade and the Case 3 and Case 5 show the global trade behaviors. Finally the Case 4 can indicate the typical cross-border trade in this region.

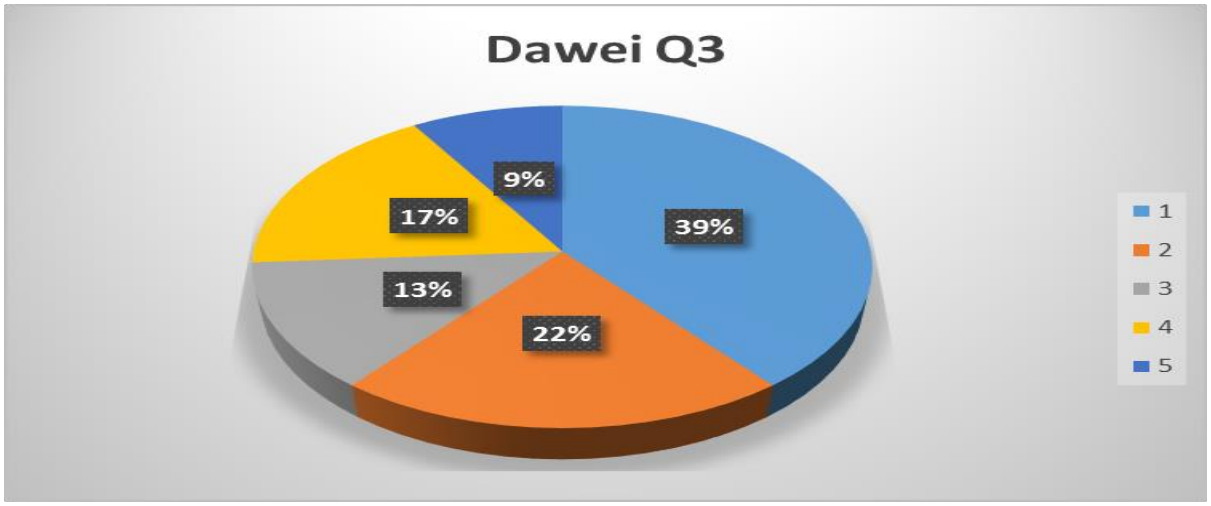


Figure 32. Results from Incept Workshop 1
Reference: Author

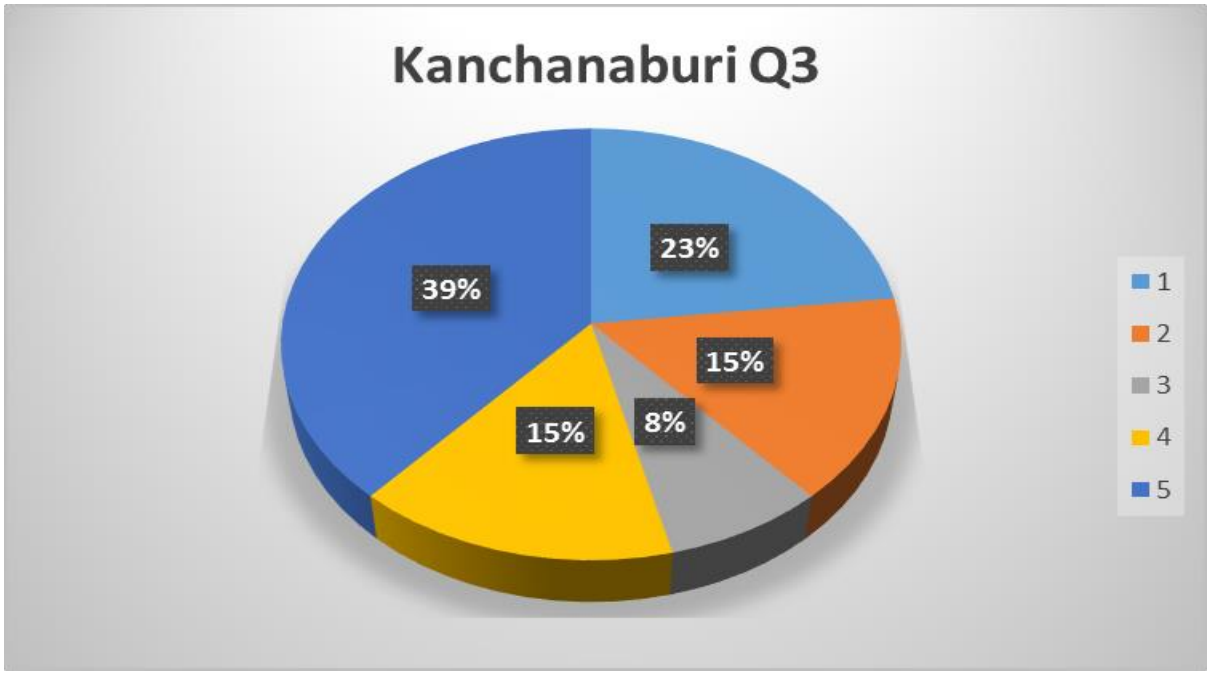


Figure 33. Results from Incept Workshop 2
Reference: Author

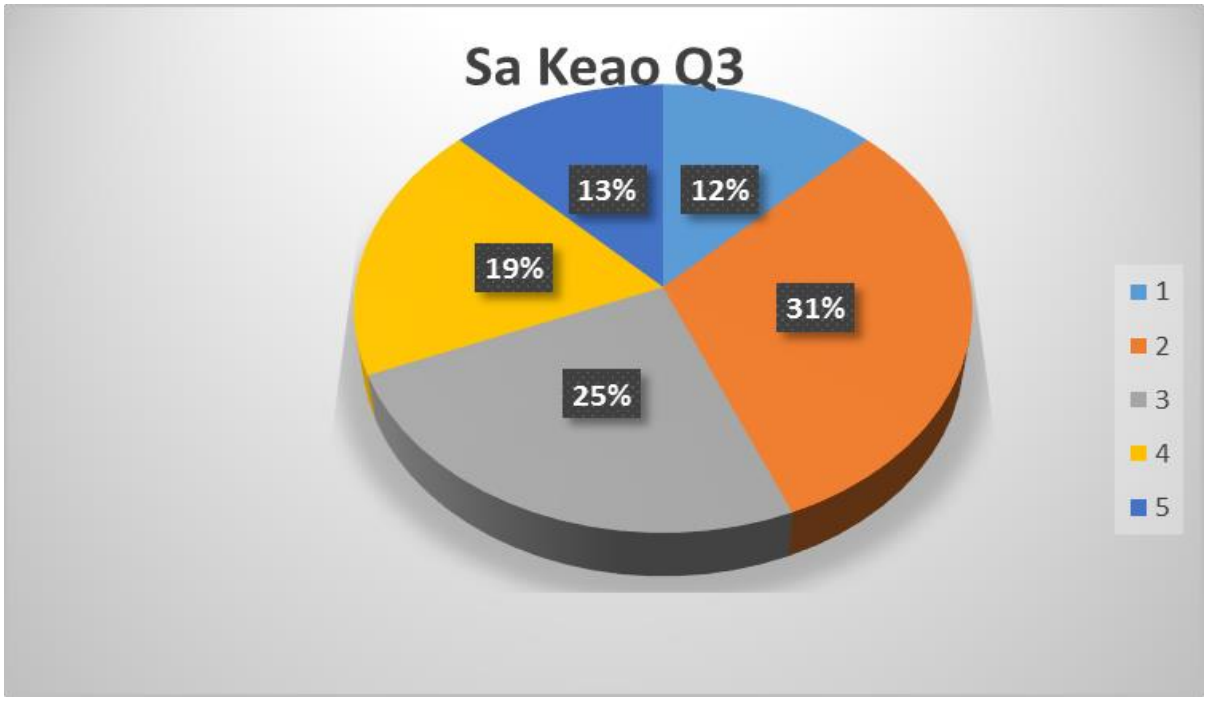


Figure 34. Results from Incept Workshop 3
Reference: Author

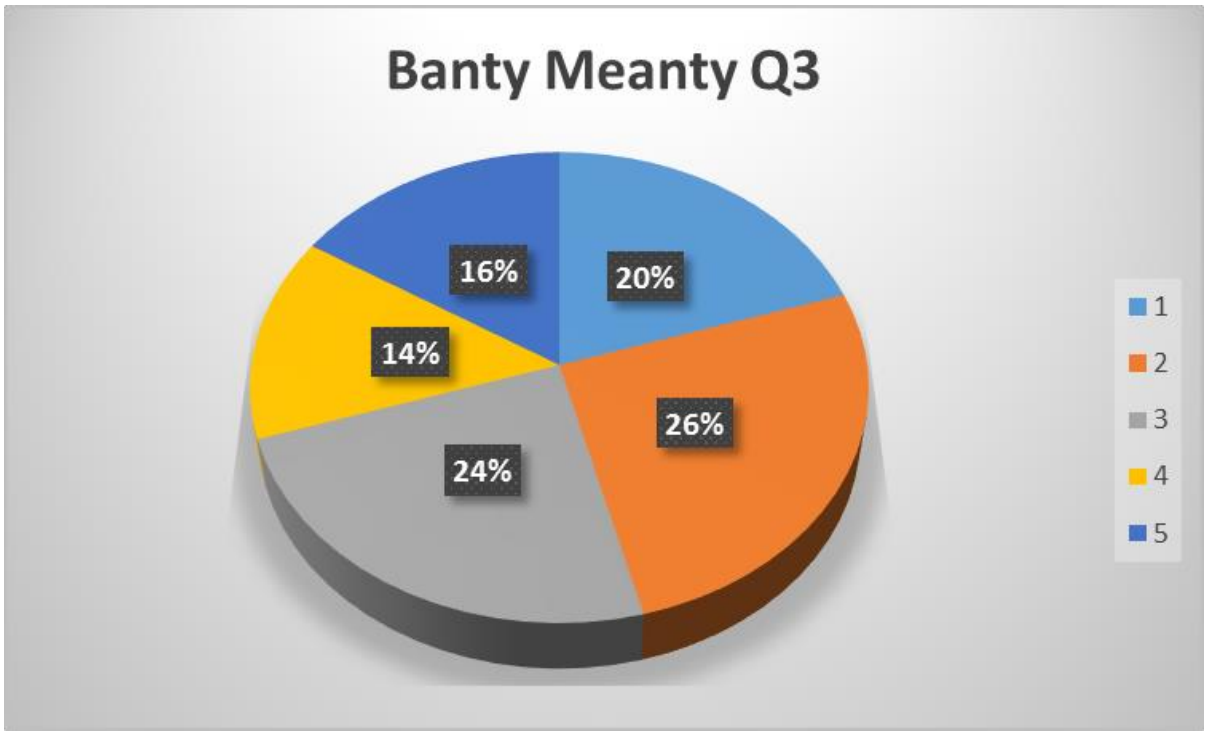


Figure 35. Results from Incept Workshop 4
Reference: Author

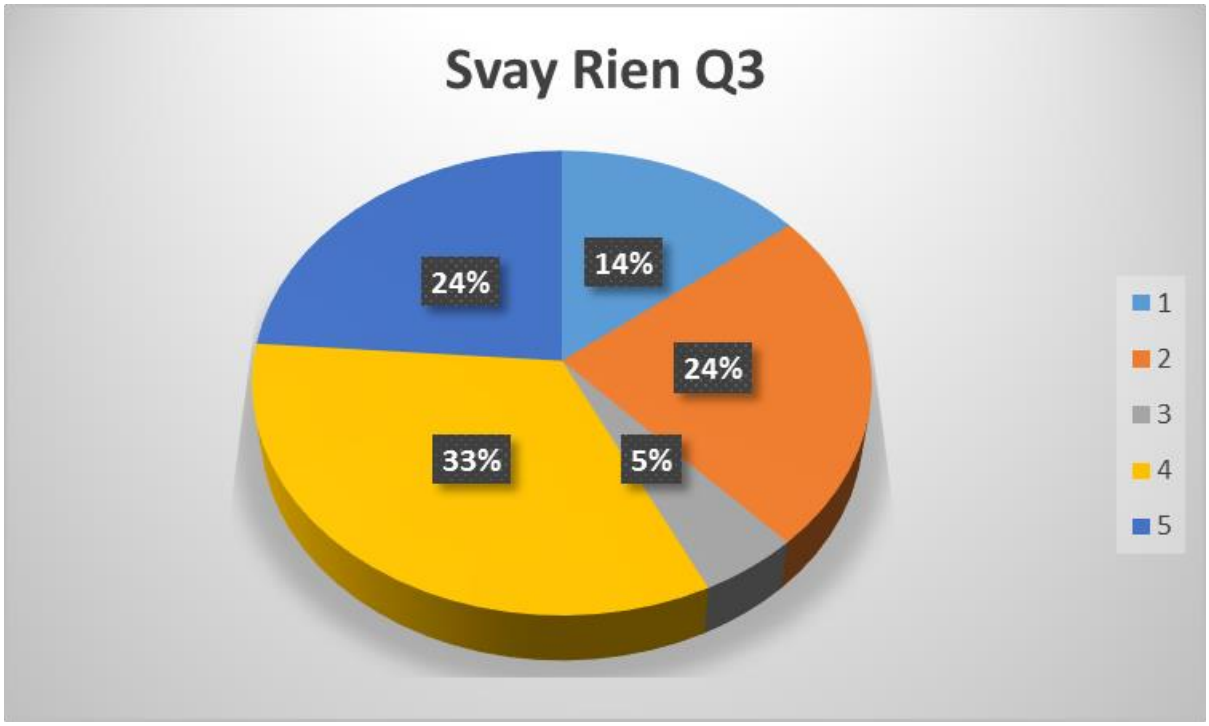


Figure 36. Results from Incept Workshop 5
Reference: Author

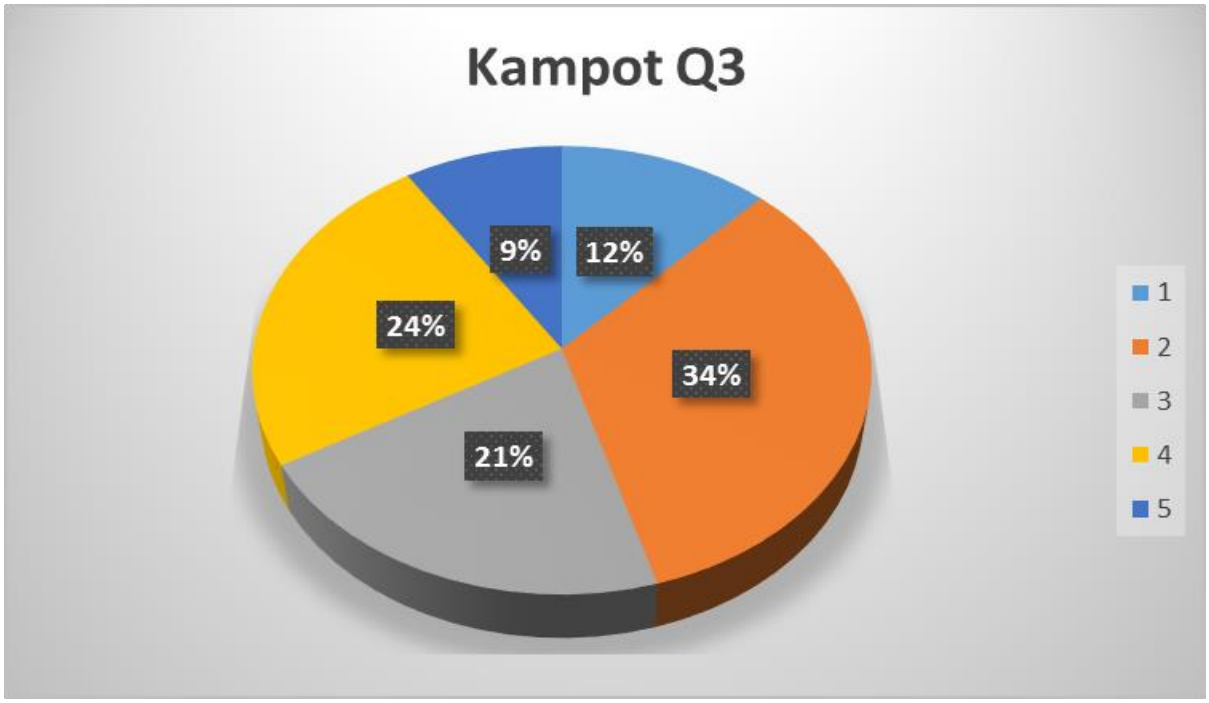


Figure 37. Results from Incept Workshop 6
Reference: Author

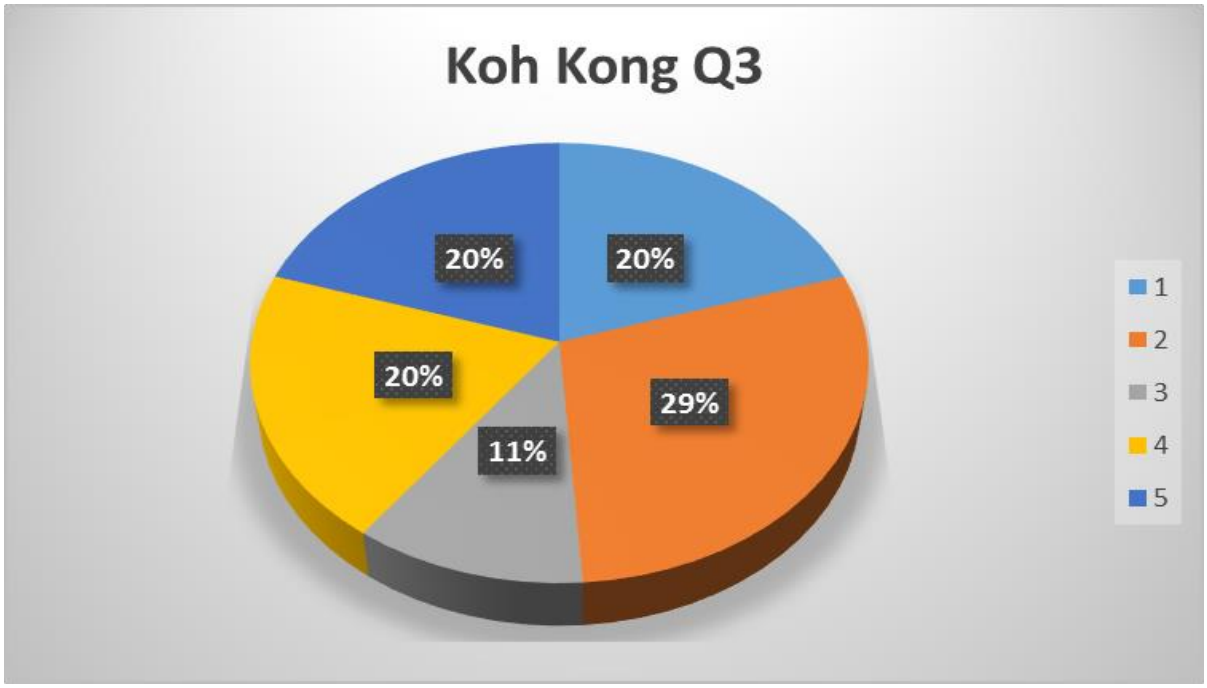


Figure 38. Results from Incept Workshop 7
Reference: Author

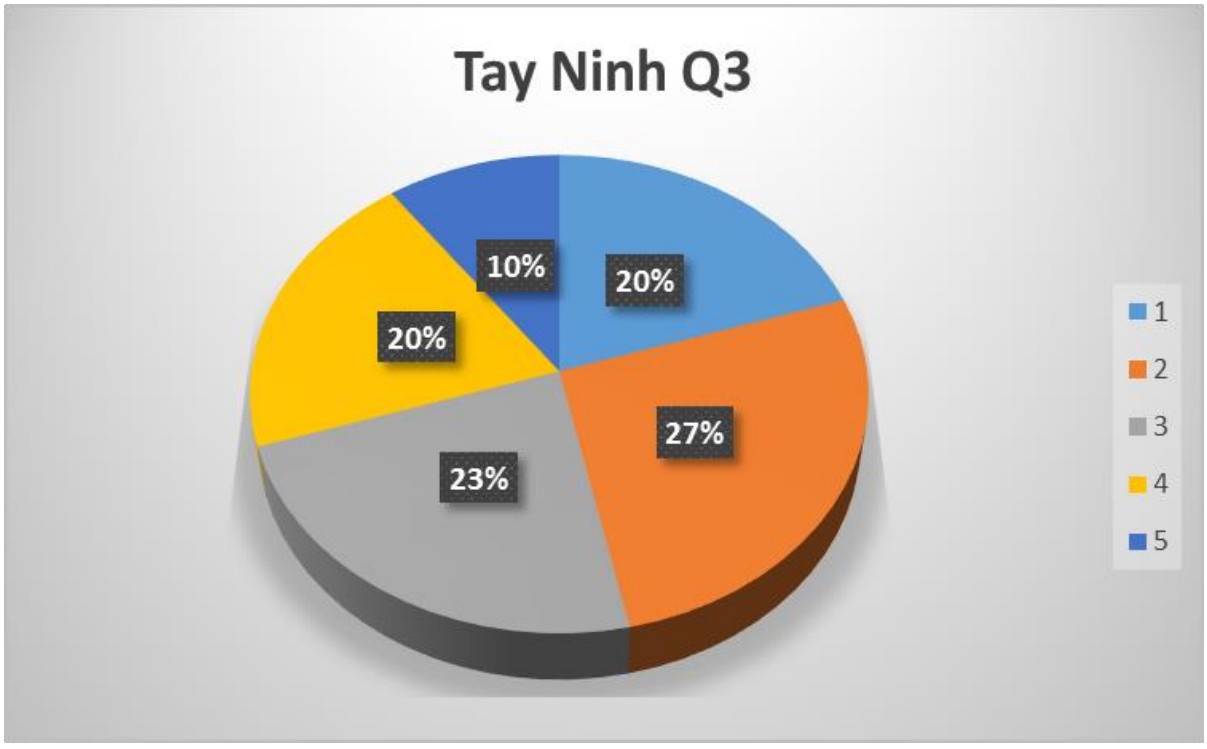


Figure 39. Results from Incept Workshop 8
Reference: Author

We cannot get any effective date from Trat Cluster for this question.

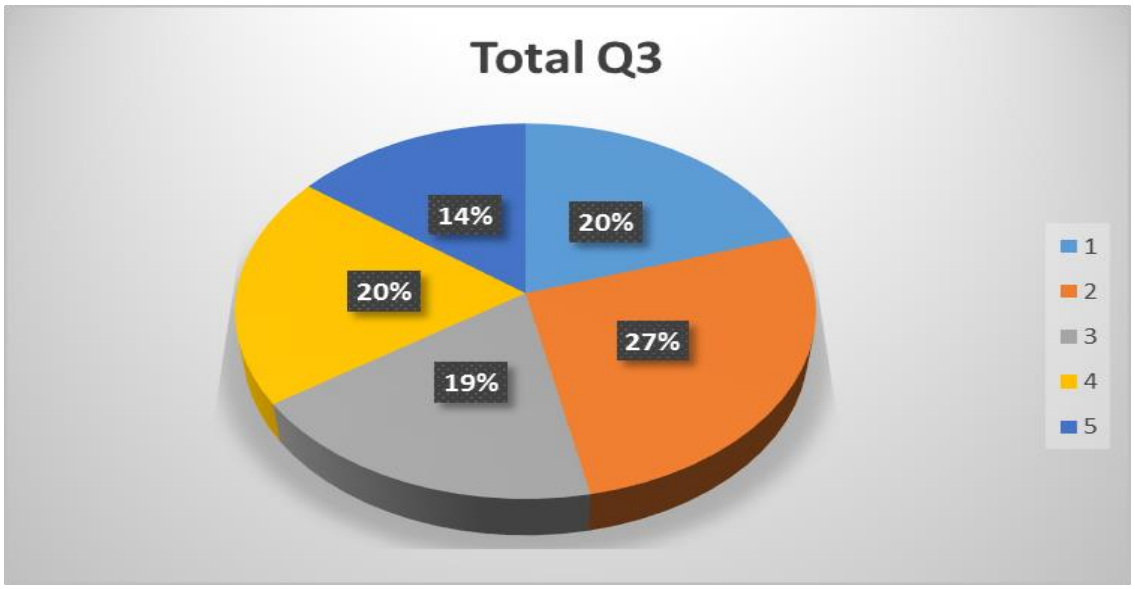


Figure 40. Results from Incept Workshop
Reference: Author

In this way, we can discover a couple of behavior of trade in each cluster.

- The most aggressive cross-border cluster is Svay Rien in Cambodia.
- Most domestic pattern in the trade can be seen in Dawei cluster.
- Most international trade-oriented can be shown in Banty Meanty, Sa Keao and Kanchanaburi. However only Kanchanaburi focuses on the third country transit.

In this research we prefer to focus on the subjective viewpoints from each cluster stakeholder rather than objective evidences such as statistics and descriptive information.

First of all, the answers responding to the questionnaire as an overall summary are below:

Table 13. Total Table for the Survey

	Dawei			Kanchanaburi			Sa Keao			Banty Meanty			Svay Rien			Kampot			Koh Kong			Trat			Tay Ninh			TOTAL		
	Total	Average	Sample N	Total	Average	Sample N	Total	Average	Sample N	Total	Average	Sample N	Total	Average	Sample N	Total	Average	Sample N	Total	Average	Sample N	Total	Average	Sample N	Total	Average	Sample N	total	Sample	average
Q1	1	32	3.2	10	12	2.4	5	9	3	3	10	1.666667	6	14	2.8	5	3	1.5	2	3	1.5	2	14	3.5	4	1	1	1	98	38	2.578947
	2	35	3.5	10	13	2.6	5	12.5	3.125	4	2	1	2	0	#DIV/0!	0	3	1	3	5	1.25	4	10	2.5	4	10	3.333333	3	90.5	35	2.585714
	3	35	3.888889	9	16	3.2	5	8.5	1.416667	6	28	2.545455	11	30.5	3.388889	9	21	3	7	36	3	12	20	2.857143	7	17	1.888889	9	212	75	2.826667
	4	30	2.727273	11	11	2.2	5	14.5	2.416667	6	3	1.5	2	0	#DIV/0!	0	1	1	1	5	2.5	2	10	5	2	6	2	3	80.5	32	2.515625
	5	29	3.222222	9	17	3.4	5	15	3.75	4	4	2	2	2	2	1	2	2	1	8	4	2	10	5	2	4	4	1	91	27	3.37037
Q4	1	18	1.5	12	11	2.2	5	6	1.5	4	39.6	2.64	15	22	2.75	8	15	1.363636	11	24	1.846154	13	10	1.428571	7	12	1.5	8	157.6	83	1.898795
	2	21	1.75	12	13	2.6	5	5	1.666667	3	13	3.25	4	16	2.666667	6	16	2.285714	7	24	2	12	12	1.714286	7	9	1.5	6	129	62	2.080645
	3	18.5	1.85	10	18	3.6	5	12.5	4.166667	3	4	2	2	8	2	4	14	2	7	29	3.625	8	19	2.714286	7	15	3.75	4	138	50	2.76
	4	21	2.333333	9	12	2.4	5	9	3	3	4	2	2	11.5	2.3	5	18	2.571429	7	32	3.2	10	10	1.428571	7	18	3	6	135.5	54	2.509259
	5	19	1.727273	11	15	3	5	7	1.75	4	10	2.5	4	15	1.875	8	24	3.428571	7	34	3.4	10	14	1.75	8	16	3.2	5	154	62	2.483871
Q5	1	17.5	1.458333	12	9	1.8	5	6	2	3	25	1.470588	17	12	1.714286	7	12	1	12	16	1.230769	13	12	1.714286	7	15	1.875	8	124.5	84	1.482143
	2	27.5	2.291667	12	14	2.8	5	6.3	2.1	3	36	2.571429	14	12	2	6	26	3.25	8	35	2.692308	13	20	2.5	8	13	2.6	5	189.8	74	2.564865
	3	20.5	1.708333	12	8	1.6	5	13.5	3.375	4	30	2.142857	14	19	2.375	8	21	2.1	10	26	2	13	9	1.285714	7	15	2.142857	7	162	80	2.025
	4	30	2.5	12	12	2.4	5	8	2.666667	3	21	1.5	14	16.5	2.357143	7	26	2.888889	9	22	1.692308	13	18	2.571429	7	9	1.5	6	162.5	76	2.138158
	5	27.5	2.291667	12	13	2.6	5	12.5	4.166667	3	29	2.071429	14	23	2.875	8	23	2.555556	9	34	2.615385	13	13	2.166667	6	14	2.8	5	189	75	2.52
Q6	1	21.5	2.15	10	6	1.2	5	7.3	1.825	4	20.5	1.708333	12	16	1.777778	9	14	1.272727	11	18	1.384615	13	0	#DIV/0!	0	15	2.142857	7	118.3	71	1.666197
	2	20.5	2.05	10	10	2	5	8	2.666667	3	15	1.666667	9	17	1.7	10	27	2.454545	11	22	1.833333	12	0	#DIV/0!	0	22	3.142857	7	141.5	67	2.11194
	3	22.5	2.25	10	14	2.8	5	10.5	3.5	3	11	1.571429	7	18	1.8	10	20	1.818182	11	21	1.615385	13	0	#DIV/0!	0	12	2.4	5	129	64	2.015625
	4	23.5	2.35	10	13	2.6	5	10	5	2	9	1.5	6	14	2	7	20	2.222222	9	32	2.909091	11	0	#DIV/0!	0	14	2.333333	6	135.5	56	2.419643
	5	23.5	2.35	10	18	3.6	5	10	5	2	6	1	6	14	2.333333	6	25	2.5	10	33	3.3	10	0	#DIV/0!	0	14	2	7	143.5	56	2.5625
Q7	1	21.5	1.791667	12	19	3.8	5	8	4	2	17.1	1.554545	11	26	2.6	10	16	1.454545	11	35	2.916667	12	0	#DIV/0!	0	18	2.25	8	160.6	71	2.261972
	2	20.5	1.863636	11	19	3.8	5	10.3	3.433333	3	12	1.714286	7	23	2.3	10	23	2.555556	9	36	2.769231	13	0	#DIV/0!	0	22	3.142857	7	165.8	65	2.550769
	3	15.5	1.409091	11	11	2.2	5	5.5	1.375	4	18	1.5	12	13	1.857143	7	19	1.727273	11	26	2.166667	12	0	#DIV/0!	0	11	1.222222	9	119	71	1.676056
	4	21	1.909091	11	14	2.8	5	6	1.5	4	16	1.6	10	30	3.333333	9	24	3	8	40	3.636364	11	0	#DIV/0!	0	21	3.5	6	172	64	2.6875
	5	16.5	1.5	11	17	3.4	5	6	2	3	11	2.2	5	14	2.333333	6	25	2.272727	11	40	3.333333	12	0	#DIV/0!	0	15	3	5	144.5	58	2.491379
Q8	1	17	1.545455	11	16	3.2	5	8	4	2	12	1.714286	7	19.5	2.166667	9	25	2.5	10	27	2.454545	11	8	1.142857	7	17	2.428571	7	149.5	69	2.166667
	2	19	1.727273	11	5	1	5	9.3	2.325	4	18	1.285714	14	20	1.818182	11	28	2.545455	11	24	2	12	9	1.285714	7	16	2	8	148.3	83	1.786747
	3	22	2	11	13	2.6	5	8	2	4	18	2.25	8	22	2.2	10	27	2.454545	11	31	2.384615	13	15	2.142857	7	17	2.833333	6	173	75	2.306667
	4	21	1.909091	11	16	3.2	5	10	2.5	4	14	1.272727	11	25	2.777778	9	19	1.727273	11	32	2.909091	11	17	2.125	8	11	2.75	4	165	74	2.22973
	5	21	1.909091	11	14	2.8	5	10	3.333333	3	7	1.75	4	19	2.111111	9	23	2.555556	9	25	2.5	10	14	2	7	18	3.6	5	151	63	2.396825

Reference: Author

In this study, more than 90 people join and reply some comments as well as completion of the inquired. We can find a variety of tendencies or intensions of each cluster's stakeholders below:

I) Each cluster consists of each characteristic member and self-portrait. Roughly speaking, it consists of three major categories: Balance Type; Service Provider Type; and Sub-Contractor Type.

Table 14. Type of Characteristics of Cluster by Subjective Viewpoints

Type of Cluster by Subjective Viewpoints	Balance Type	Service Provider Type	Sub-Contractor Type
Cluster	Dawei Kanchanaburi	Banty Meanty Svay Rien Kampot	Sa Keao Koh Kong Trat Tay Ninh

In this way, while "Balance Type" balancing both supporters as business development servicers and makers themselves, "Service Provider" Type is focusing on the BDS for developing their own cluster and "Sub-Contractor" Type identified themselves as following to the makers.

I) These results can explain the most contributive actors in clustering in each cluster.

1) Almost all cluster pointed out Multinational Company will be able to contribute toward clustering and Private Business Development Service represented by Logistics Service as following to this Multinational Company;
2) Local Government seems to support clustering but relatively small and under the expectation;
3) Kampot as an example of Business Association Driven Clustering, and Banty Meanty & Svay Rien as samples of SMEs Driven Clustering.

From these results above, low wage is referred as the first priority of all business factors which is in line with the "Thai plus One" phenomena from Thai to the neighboring countries. This pressure defines the transformation of industrial structure in the Mekong sub-region.

Normally speaking, multinational company or Foreign Direct Investment is the ideal counter for cluster's marketing. Three clusters express the Direct to Consumer Marketing such as E-commerce and new IOT business facility. These new clusters are Sa Keao, Kampot and Tay Ninh.

Table 15. Three New Clusters targeting to E – Commerce

Clsuter	Nationality	Product
Sa Keao	Thailand	Herbal Soap
Kampot	Cambodia	Salt
Tay Ninh	Vietnam	Custard Apple

Reference: Author

II) In terms of connectivity in Cluster to Cluster in this region, we have to keep in mind the specific and physical transportation situation. Therefore in this question, it should be asked more directly to stakeholders of each cluster for facing some challenges behind the logistics.

This question discovers the two significant results: One is that transportation volume seems quite serious but this is a sort of "chicken and egg" relationship. It means that if the trade increases and then transportation also increases and if the transportation volume increase can contribute to stimulation of this regional economy; the other is that Dawei and Thai clusters are facing the problem from logistics services as business side or relatively software of transportation on the one side, Cambodia and Vietnam Cluster seems to be inclined with the challenges in relatively hard infrastructure and public or institutional facilities from the subjective viewpoints of each cluster.

This inquiry seems to depend on the situation of each cluster. Therefore, on contrary, we can understand the challenges of each cluster by analyzing the demanding each specific supporting service.

Table 16. Demanding BDS in each Cluster

Cluster	1st Demand	2nd Demand	3rd Demand
Dawei	Accounting	Consultation	Legal Issues
Kanchanaburi	Logistics	Legal Issues	Accounting
Sa Keao	Logistics	Accounting	Legal Issues
Banty Meanty	Consultation	Accounting	Logistics
Svay Rien	Legal Issues	Consultation	Accounting
Kampot	Accounting	Consultation	Logistics Finance
Koh Kong	Legal Issues	Accounting	Logistics
Trat	Consultation	Legal Issues	Accounting
Tay Ninh	Accounting	Consultation	Legal Issues

Reference: Author

It can bring a couple of findings:

- Legal issues as well as accounting are relatively serious rather than our expectation.
- Finance seems relatively not so important for each clustering in this region.
- These BDS have to be estimated more accurately in the next step toward clustering in the SEC.

Specialist Review:
Results from Inception Workshop

In addition to the interview survey, it should be introduced the specialist assessment and to provide a gap between the people who are creating cluster and the specialists for "clustering."

Both perspectives sound so subjective therefore it should be utilized AHP analysis for the gap assessment. For the specialist view in this paper, this survey asked the Otagai Forum Association and, for the clusters' vice from the data from this survey.

Before the introduction of results, the following paragraph can brief the Analytic Hierarchy Process (hereinafter is referred as "AHP") methodology. AHP stands for Analytic Hierarchy Process which can investigate some subjective decision making analysis. Dr. Thomas L. Saaty from University of Pittsburgh advocated this approach. In the upcoming paragraph, we can find some results from the comparison between cluster's viewpoint and specialist perspective with this gap. It can reveal each

subjective decision for the preference of each factor around clustering.

In this analysis, cluster's perspectives are expressed as an average of the total clusters in the SEC. The specialist perspective comes from Otagai Forum Association Secretariat and they can have three criterion of each factor under the question 4 to question 7. The weight of these criterions is below:

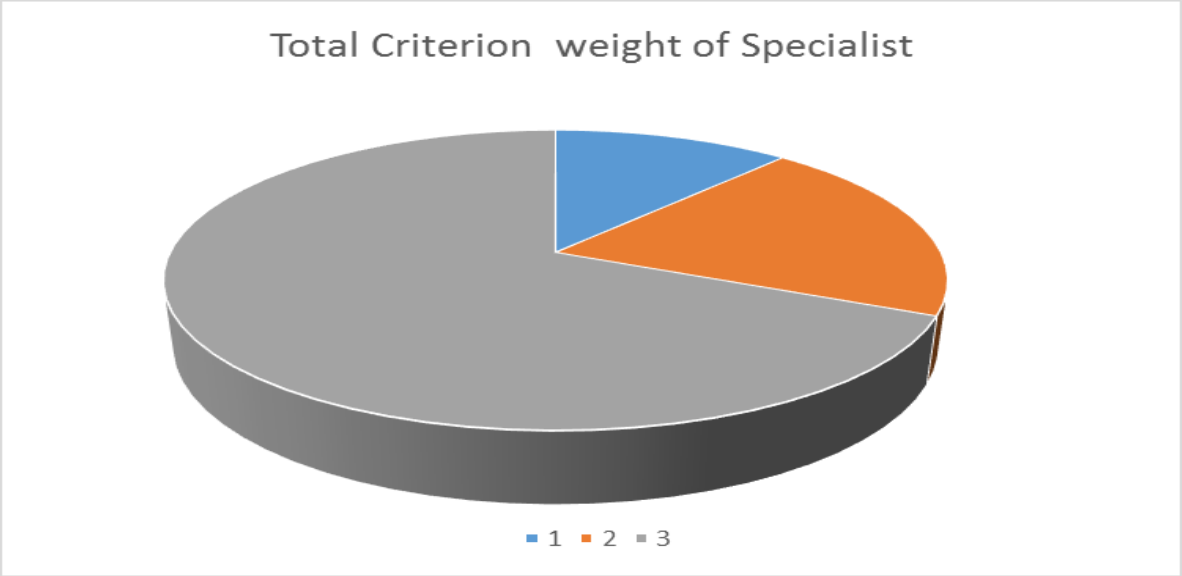


Figure 41. Total Criterion Weight of Specialist
No.1 refers to Production
No.2 refers to Management
No.3 refers to Marketing

Structure of the question 4 was built on the chart below:

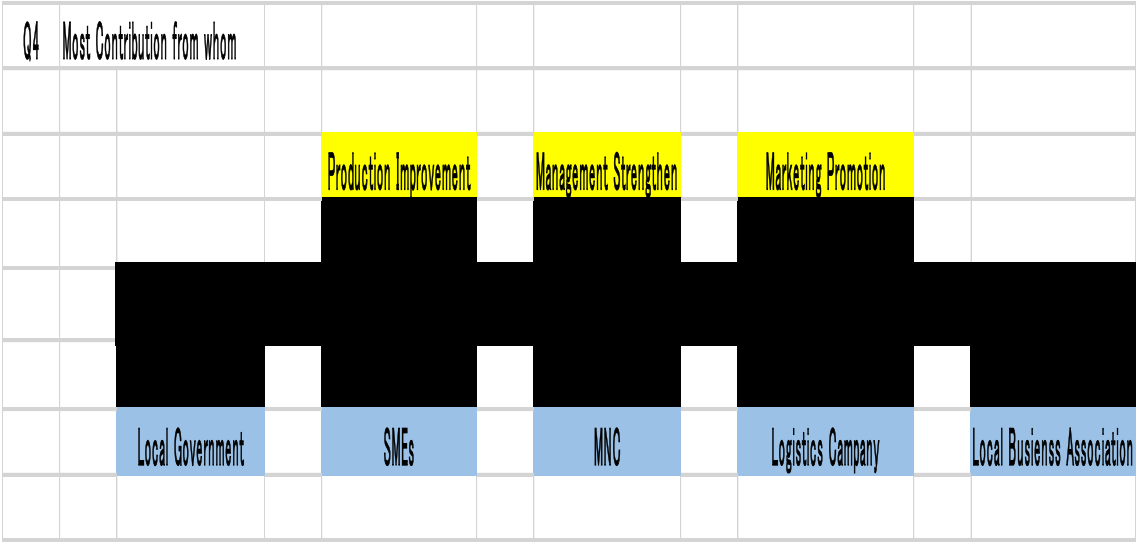


Figure 42. Structure of AHP 1
Reference: Author

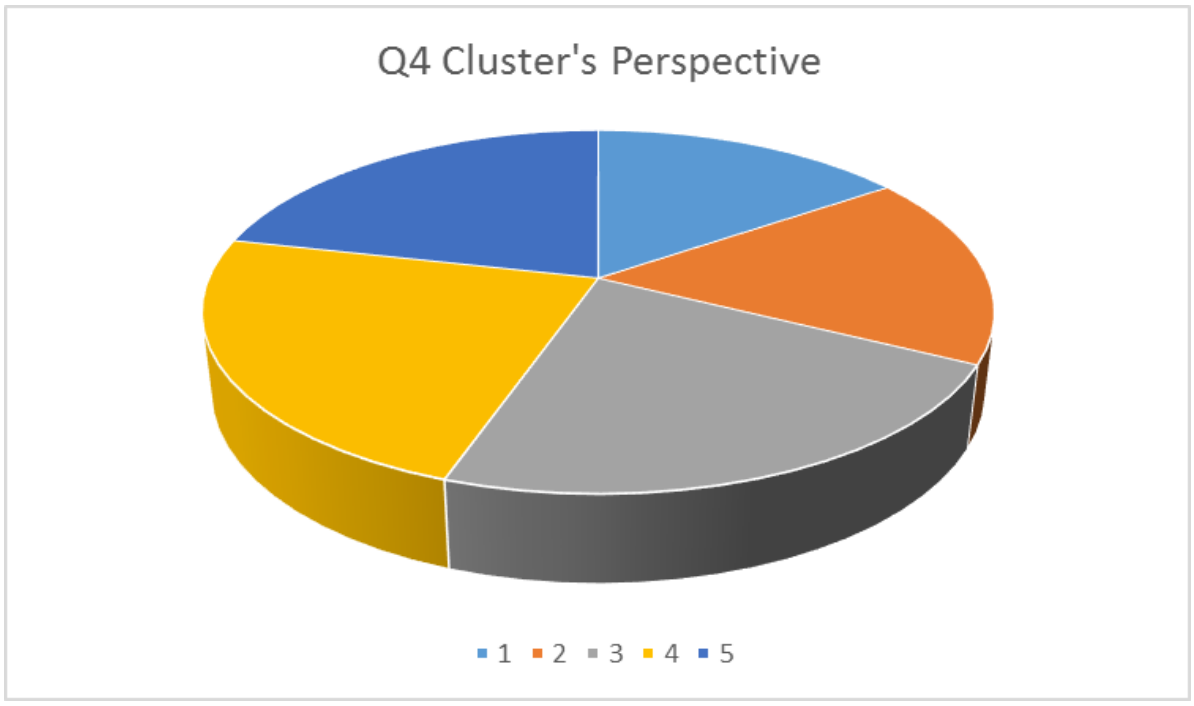


Figure 43. Results of AHP 1
Reference: Author

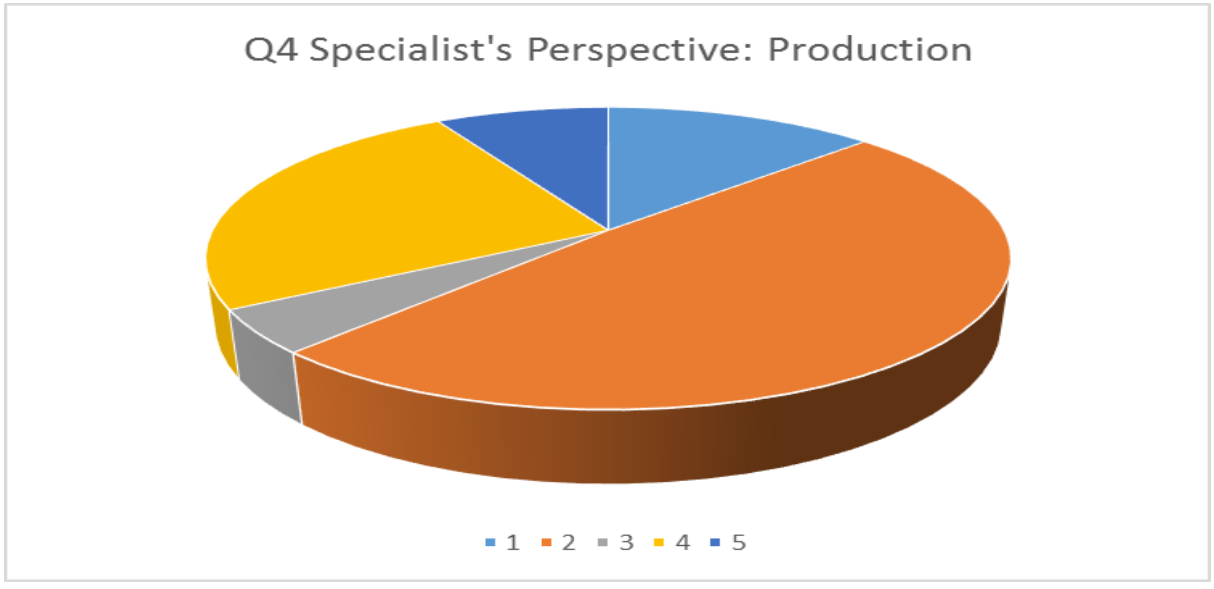


Figure 44. Results of AHP 2
Reference: Author

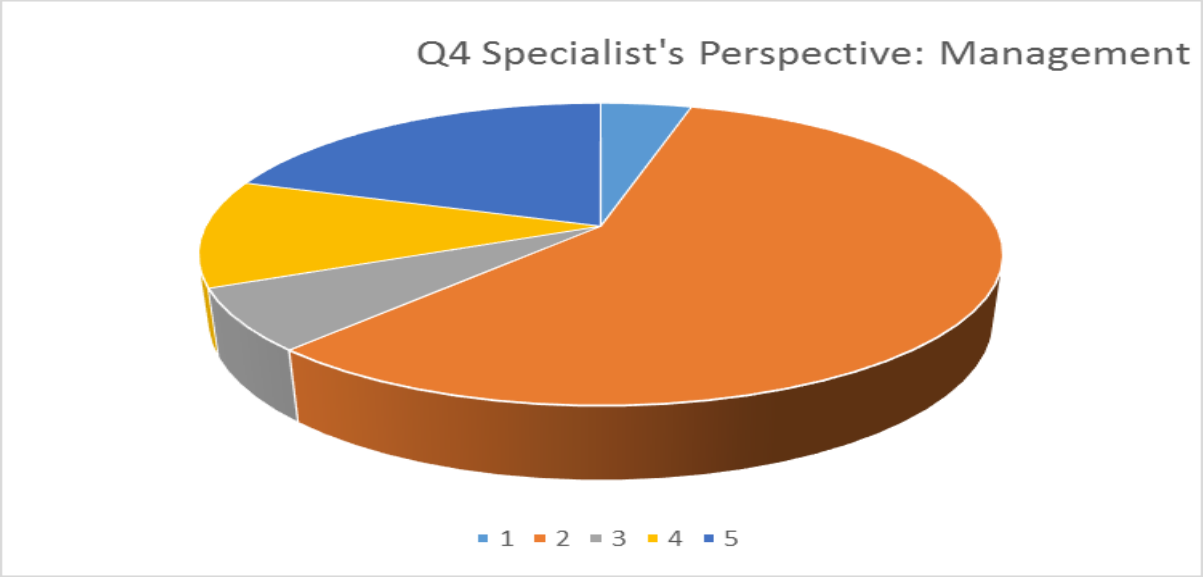


Figure 45. Results of AHP 3
Reference: Author

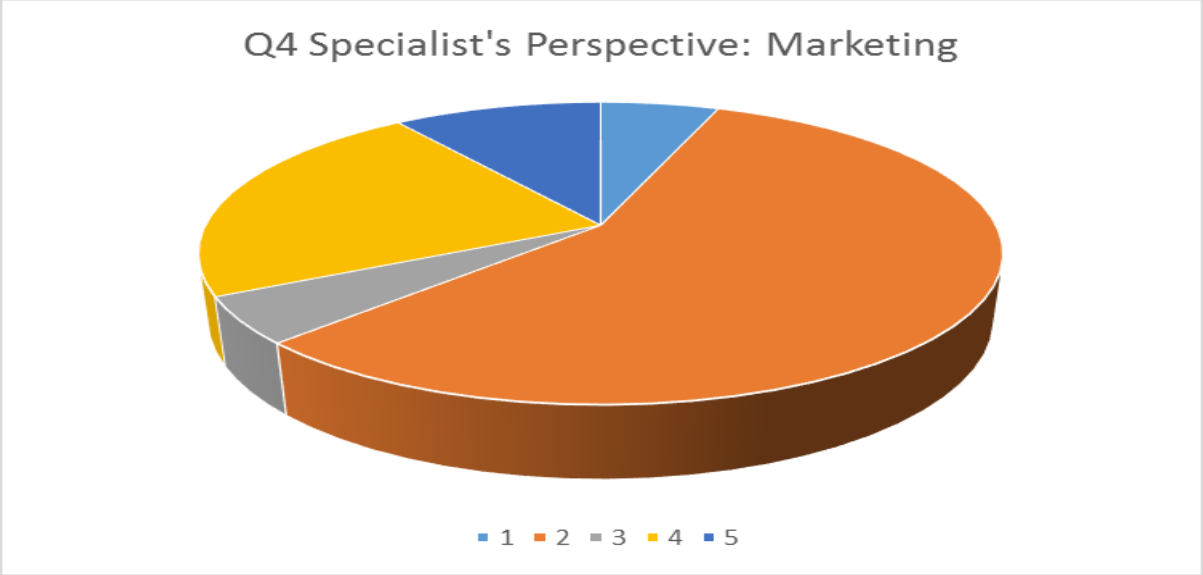


Figure 46. Results of AHP 4
Reference: Author

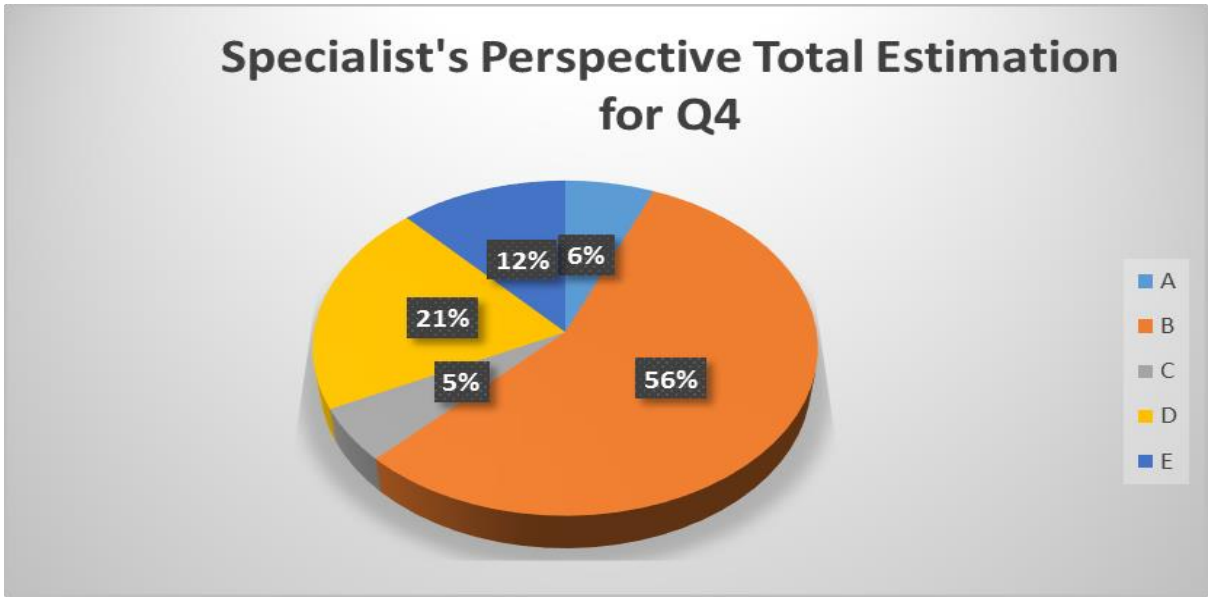


Figure 47. Results of AHP 5
Reference: Author

Question 4 investigates contributors in clustering. Compare to the cluster's view, the specialist emphasizes on the role of SMEs. That can be observed all function of business: production, management and marketing.

In terms of preference for each category, multinational company is regarded as the first priority for cluster people on the one hand and SMEs is the most important for specialist. That perception gap should be taken note in this argument.

Structure of the question 5 was built on the chart below:

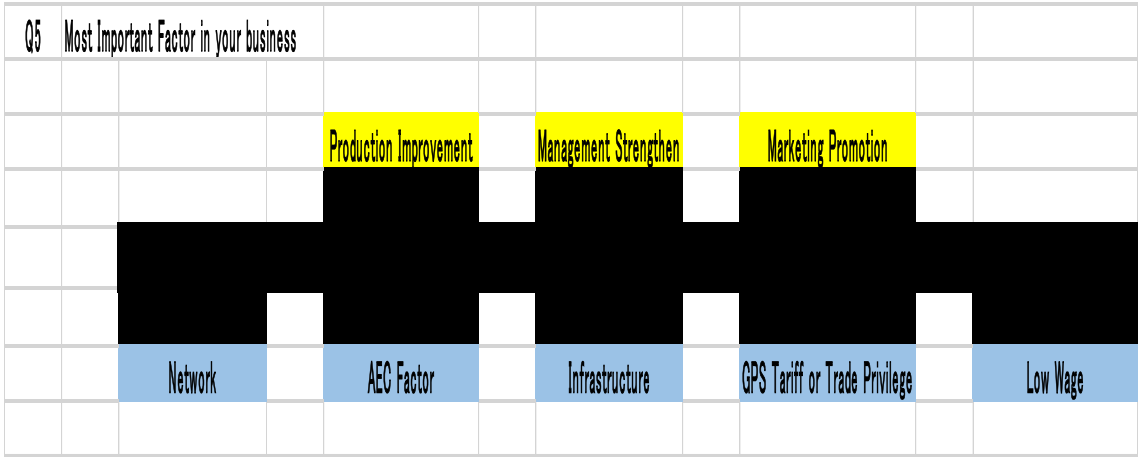


Figure 48. Structure of AHP 6
Reference: Author

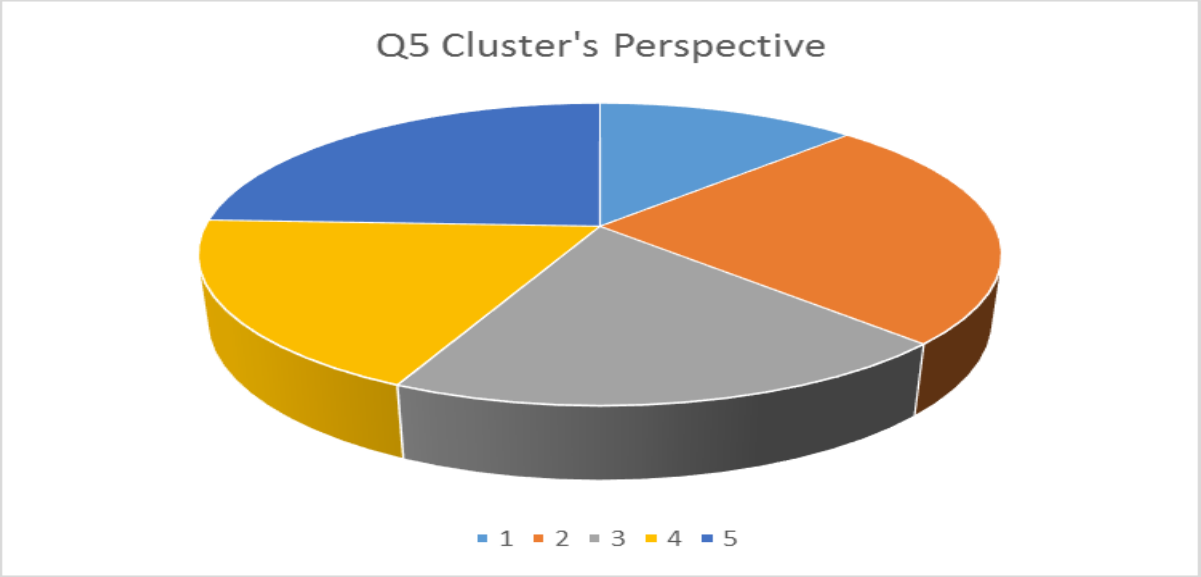


Figure 49. Results of AHP 7
Reference: Author

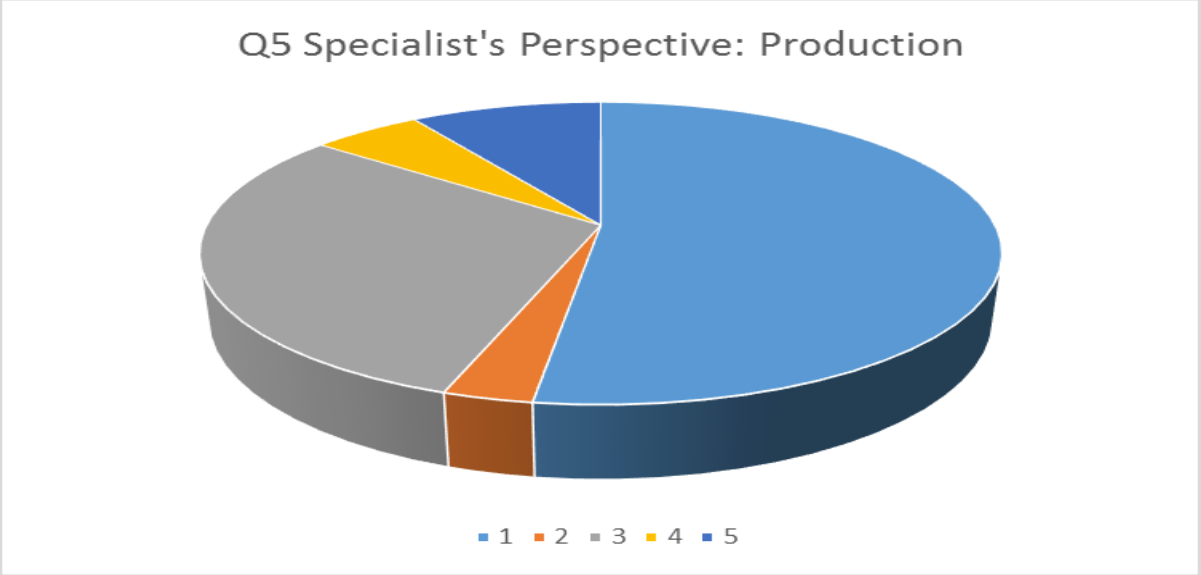


Figure 50. Results of AHP 8
Reference: Author

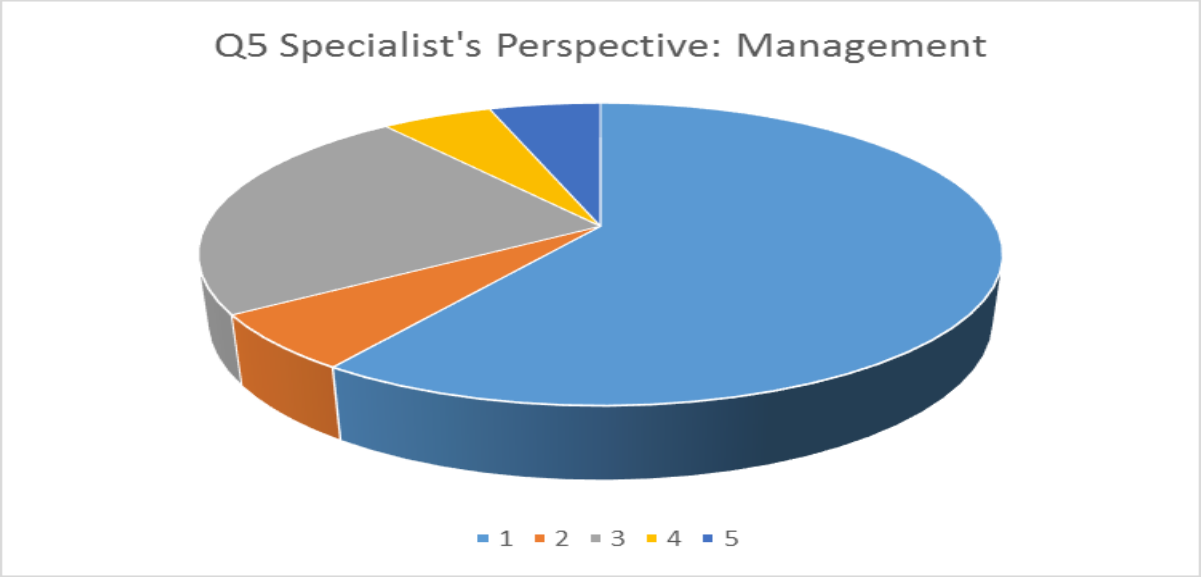


Figure 51. Results of AHP 9
Reference: Author

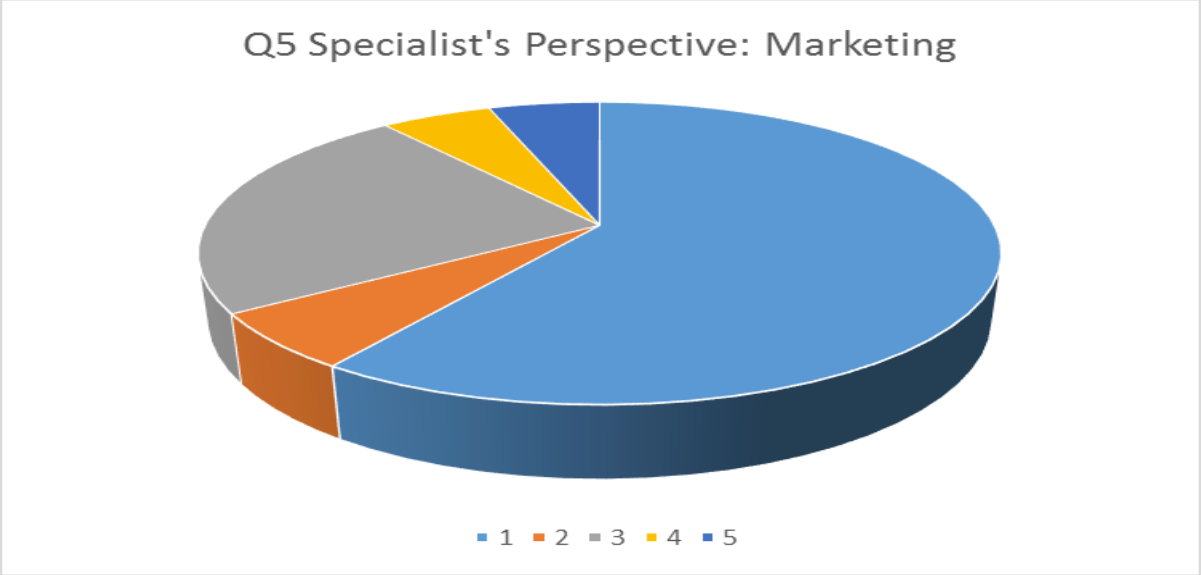


Figure 52. Results of AHP 10
Reference: Author

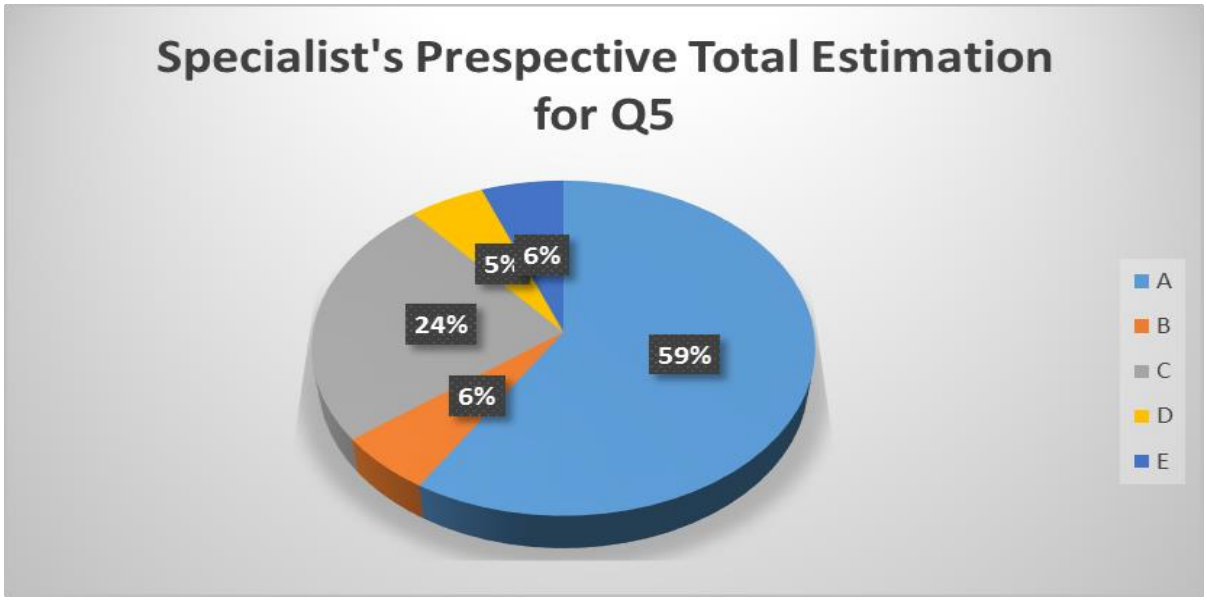


Figure 53. Results of AHP 11
Reference: Author

In this result, we can find the most important agenda in networking from the viewpoint of the specialist, even though cluster people regarded this point as the lowest evaluation for clustering. This gap seems to be registered as one of the most serious future instruction aspect for clustering in each cluster alongside the SEC.

Structure of the question 6 was built on the chart below:

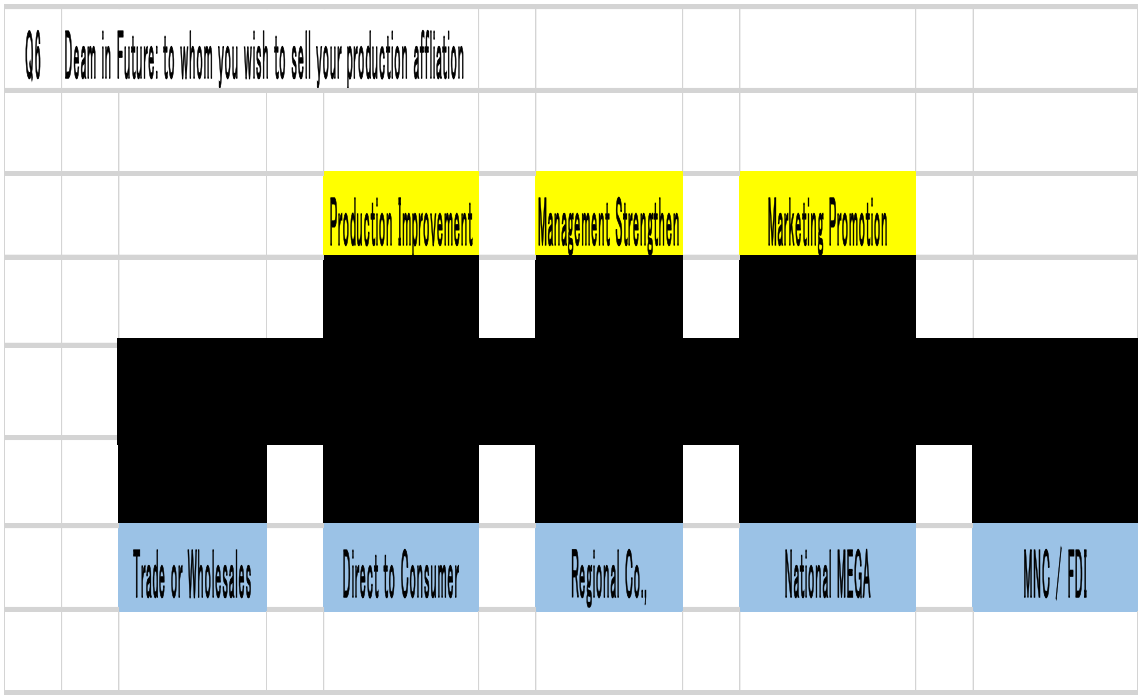


Figure 54. Structure of AHP 12
Reference: Author

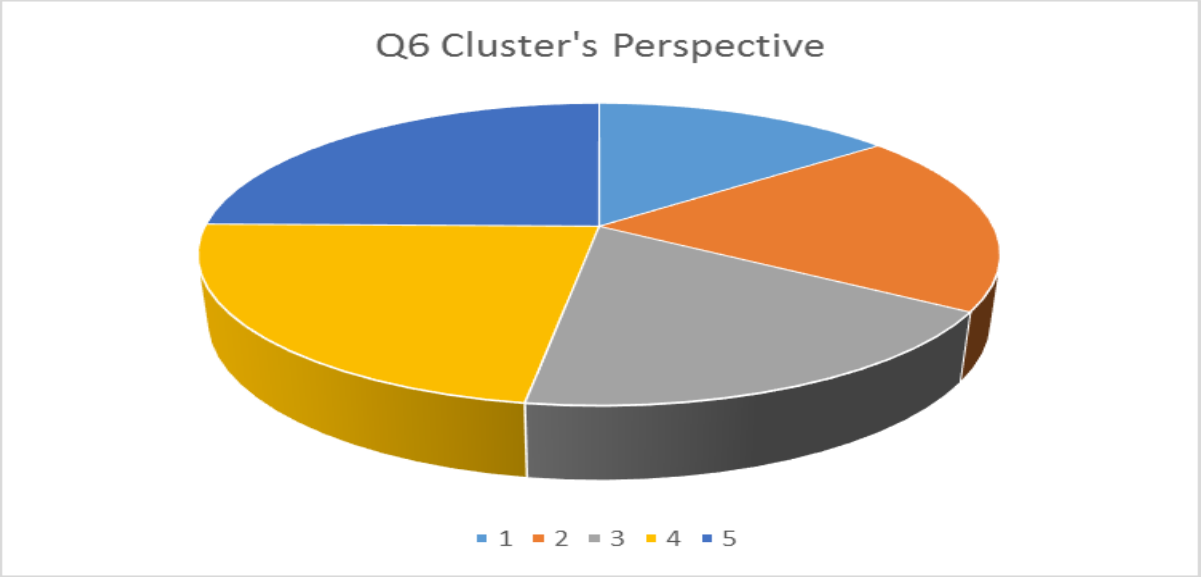


Figure 55. Results of AHP 13
Reference: Author

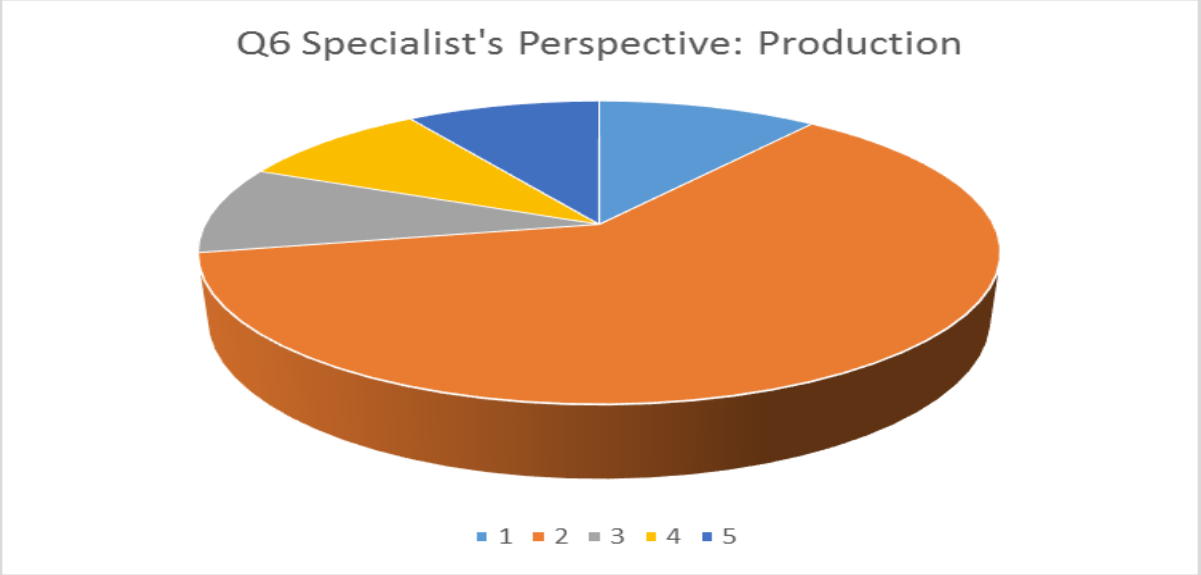


Figure 56. Results of AHP 14
Reference: Author

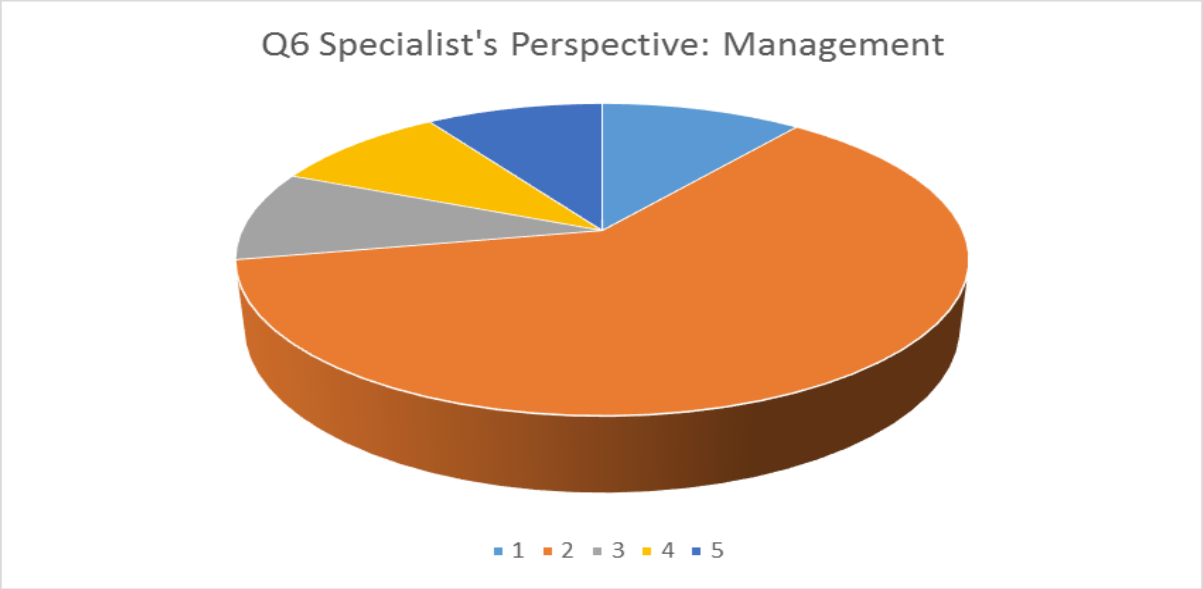


Figure 57. Results of AHP 15
Reference: Author

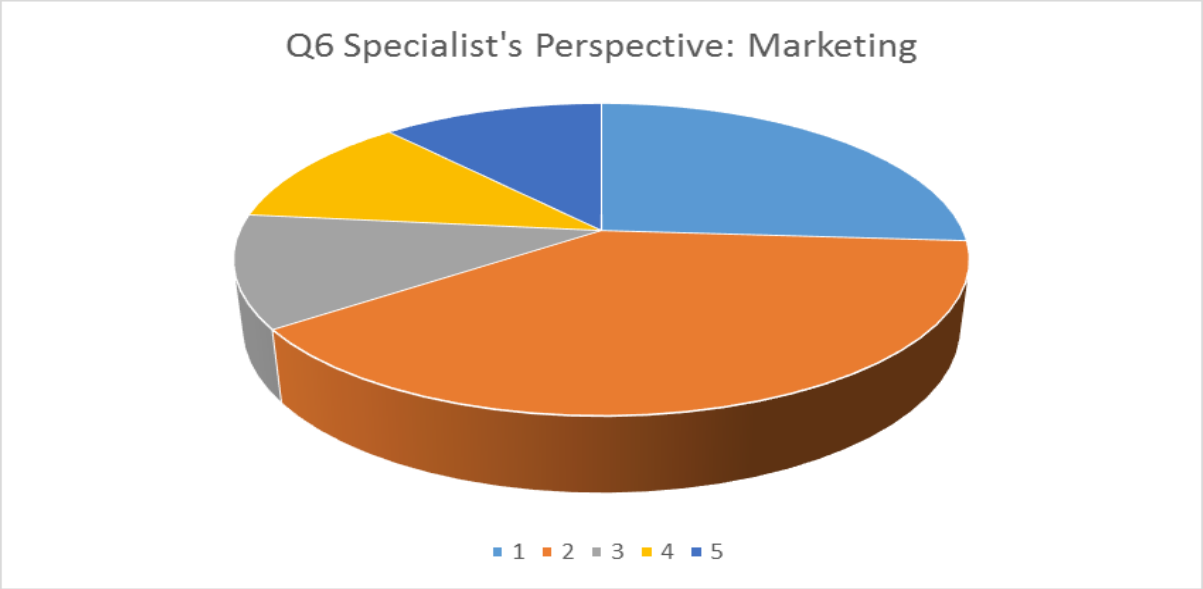


Figure 58. Results of AHP 16
Reference: Author

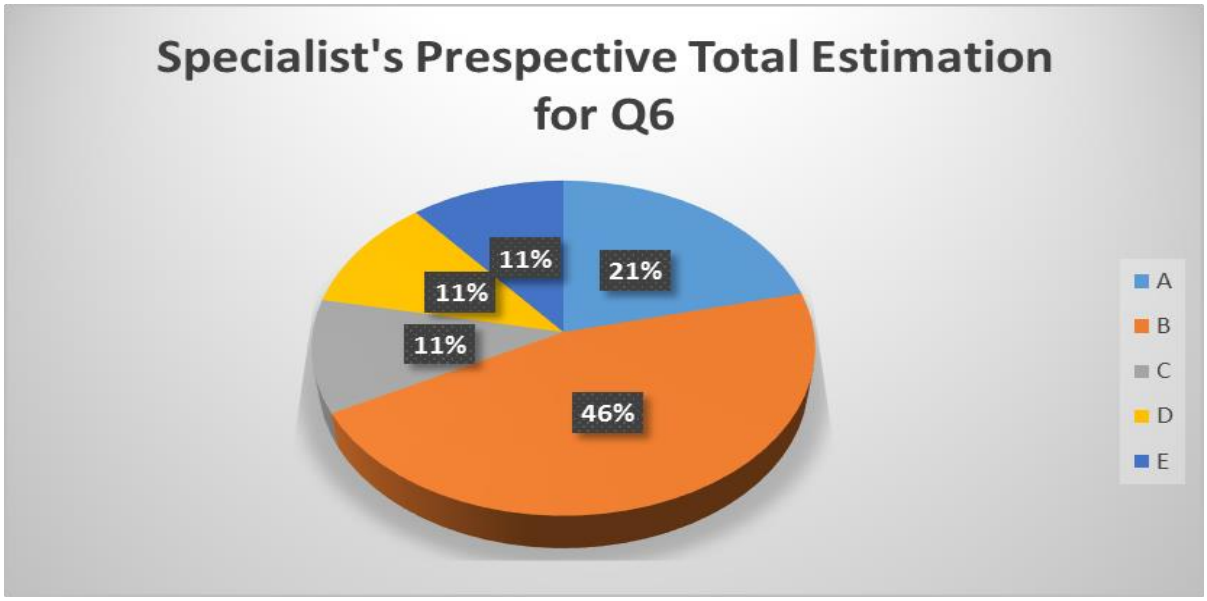


Figure 59. Results of AHP 17
Reference: Author

This result shows the most serious potential destination of business in the direct-to-consumer by the specialist. That category can be inclined to E-Commerce and so on.

Structure of the question 8 was built on the chart below:

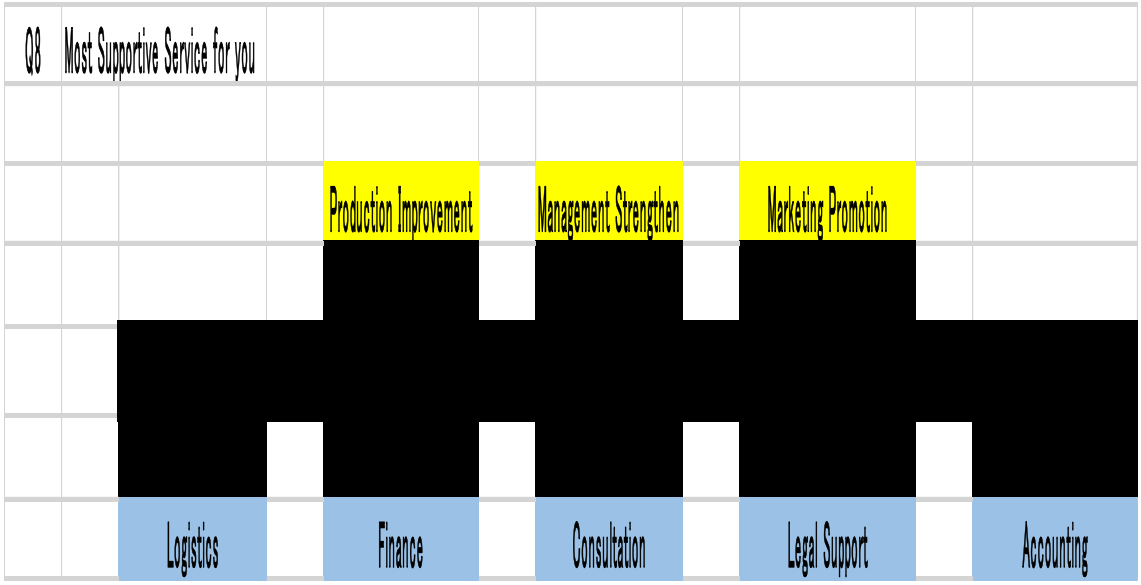


Figure 60. Structure of AHP 18
Reference: Author

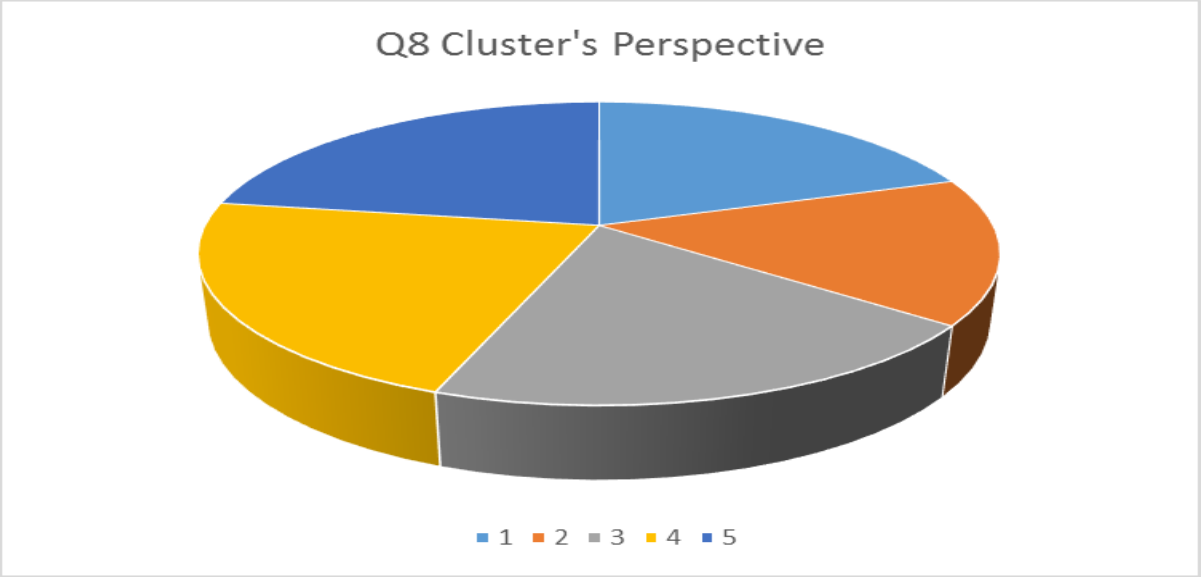


Figure 61. Results of AHP 19
Reference: Author

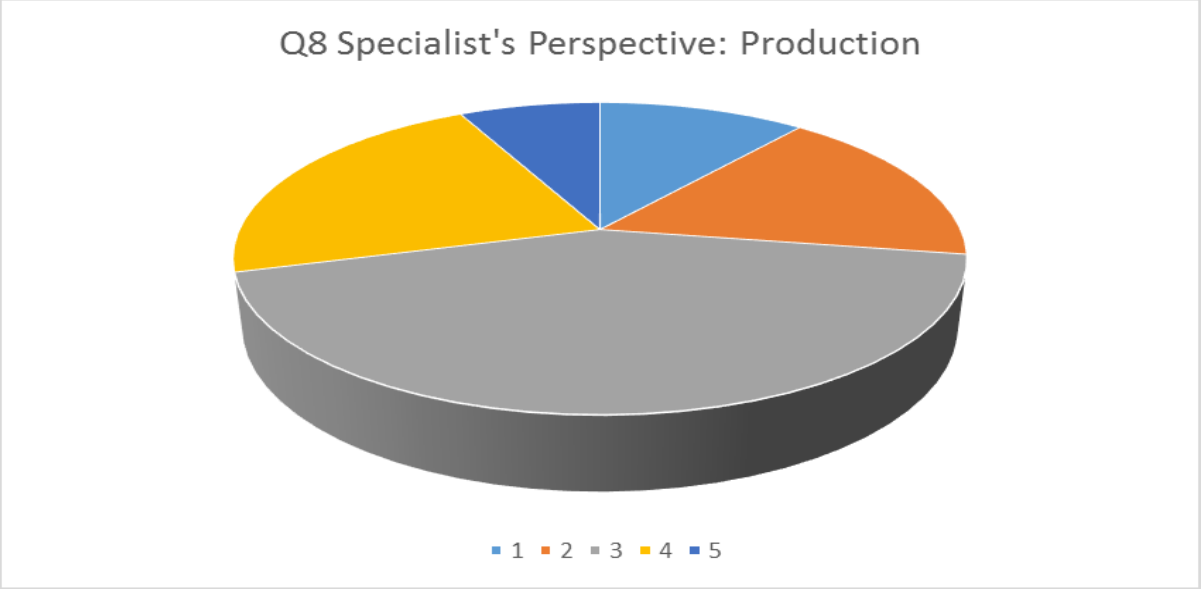


Figure 62. Results of AHP 20
Reference: Author

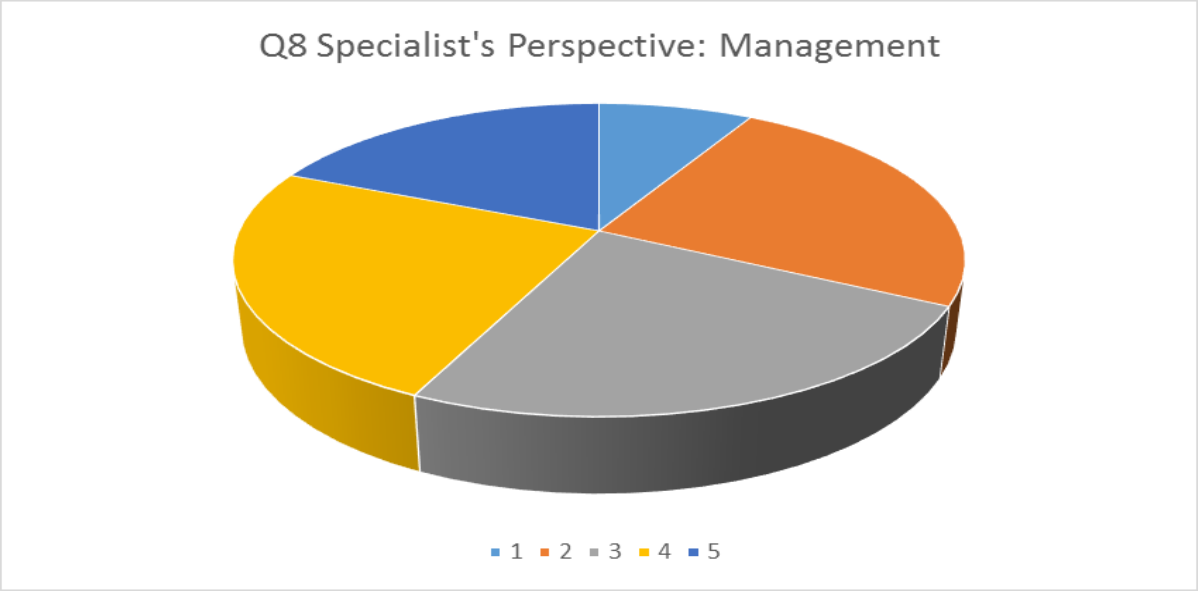


Figure 63. Results of AHP 21
Reference: Author

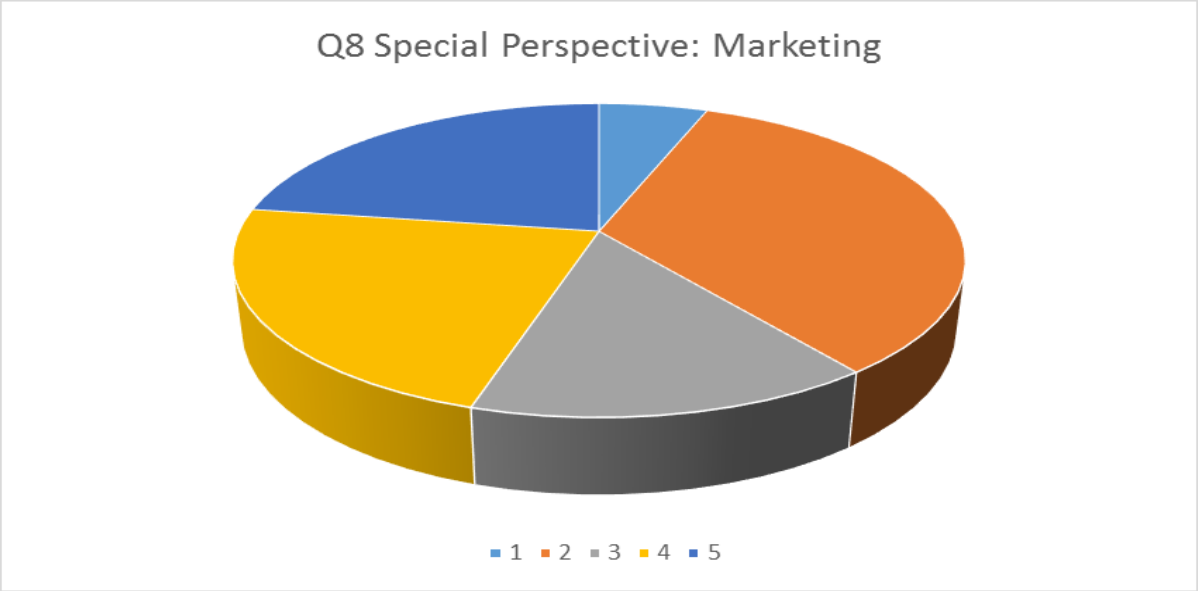


Figure 64. Results of AHP 22
Reference: Author

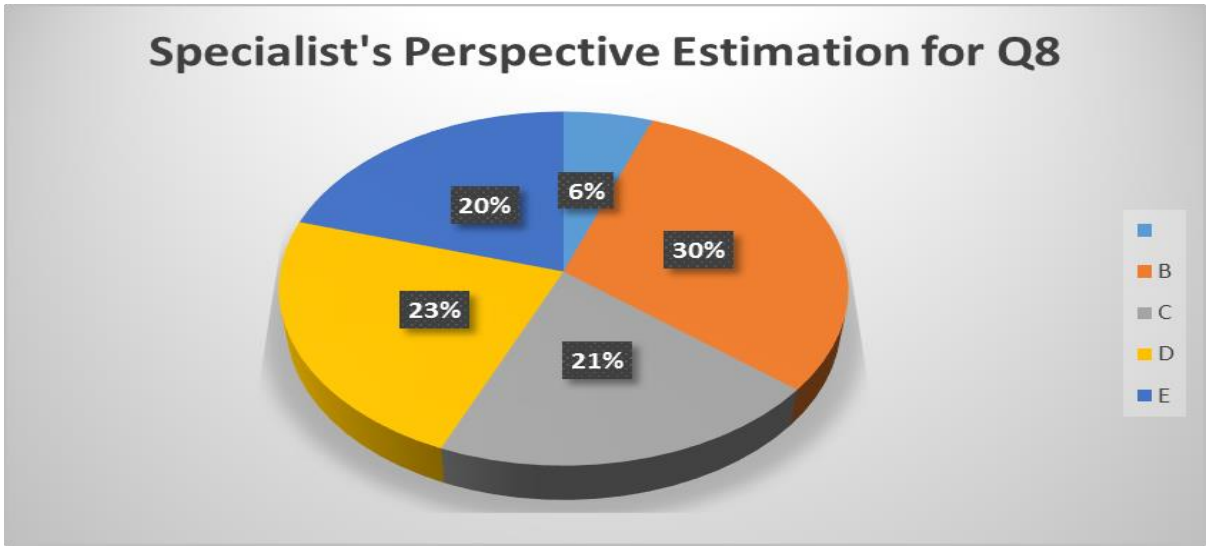


Figure 65. Results of AHP 23
Reference: Author

Finally the answers to the question 7 discover the most important supporters for clustering. Only for the production viewpoint by the specialist, consultation is required when it comes to clustering.

Cluster's Viewpoint

Q4

Table 17. Matrix of AHP 1

	A	B	C	D	E	Multiple	The Forth Power Root	%		Coherency	A	B	C	D	E	Total	Total/weight	Coherency Indicator
A	1	0.912599	0.687969	0.756715	0.764450008	0.363187	0.776305572	15.31895		A	0.15319	0.156732	0.156732484	0.176268075	0.163829	0.806752	5.266365194	0.003784589
B	1.095771	1	0.753857	0.829187	0.837662338	0.57376	0.870327244	17.17429		B	0.167861	0.171743	0.17174295	0.193149488	0.17952	0.884016	5.147317966	
C	1.453553	1.326512	1	0.829187	1.111116883	1.776538	1.154498209	22.7819		C	0.222669	0.227819	0.227819102	0.193149488	0.238135	1.109591	4.870494925	
D	1.321501	1.206001	1.206001	1	1.010221126	1.941686	1.180442228	23.29384		D	0.20244	0.207122	0.274749869	0.232938394	0.216501	1.133751	4.867171275	
E	1.30813	1.193798	0.899953	0.989682	1	1.391187	1.086041302	21.43101		E	0.200392	0.205026	0.205026467	0.23058156	0.21431	1.055336	4.924342417	
							5.067615554										5.015138356	

Reference: Author

Q5

Table 18. Matrix of AHP 2

	A	B	C	D	E	Multiple	The Forth Power Root	%		Coherency	A	B	C	D	E	Total	Total/weight	Coherency Indicator
A	1	0.577864	0.731922	0.693187	0.588151927	0.172437	0.644403081	12.52559		A	0.125256	0.143662	0.143661965	0.129397462	0.14303	0.685007	5.468858953	0.004737871
B	1.730511	1	1.2666	1.199568	1.017803518	2.676101	1.279014997	24.86086		B	0.216757	0.248609	0.248608645	0.223923763	0.247514	1.185412	4.768185216	
C	1.366265	0.789515	1	1.199568	0.803571429	1.039788	1.009801882	19.62803		C	0.171133	0.19628	0.196280324	0.223923763	0.195416	0.983033	5.008313874	
D	1.442613	0.833634	0.833634	1	0.848475355	0.850628	0.960361801	18.66704		D	0.180696	0.207249	0.163625901	0.186670404	0.206336	0.944577	5.060131773	
E	1.700241	0.982508	1.244444	1.178585	1	2.450094	1.251110596	24.31847		E	0.212965	0.24426	0.244259959	0.220006866	0.243185	1.164677	4.789267599	
							5.144692356										5.018951483	

Reference: Author

Q6

Table 19. Matrix of AHP 3

	A	B	C	D	E	Multiple	The Forth Power Root	%		Coherency	A	B	C	D	E	Total	Total/weight	Coherency Indicator
A	1	0.788941	0.82664	0.688613	0.650223291	0.292011	0.735105661	14.45752		A	0.144575	0.153403	0.153402572	0.156867174	0.161001	0.769248	5.320748913	0.001794763
B	1.267521	1	1.047784	0.872831	0.824171824	0.955378	0.988652841	19.4441		B	0.183252	0.194441	0.194441016	0.198832473	0.204072	0.975039	5.014572961	
C	1.209716	0.954395	1	0.872831	0.786585366	0.792661	0.943565206	18.55735		C	0.174895	0.185574	0.185573509	0.198832473	0.194765	0.93964	5.063436506	
D	1.452195	1.145697	1.145697	1	0.944250871	1.799913	1.158278199	22.78017		D	0.209951	0.22277	0.212610942	0.227801692	0.233805	1.106939	4.859222138	
E	1.537933	1.213339	1.271318	1.059041	1	2.512387	1.25898807	24.76086		E	0.222347	0.235923	0.235922911	0.241251238	0.247609	1.183053	4.777914737	
							5.084589975										5.007179051	

Reference: Author

Q8

Table 20. Matrix of AHP 4

	A	B	C	D	E	Multiple	The Forth Power Root	%		Coherency	A	B	C	D	E	Total	Total/weight	Coherency Indicator
A	1	1.212632	0.939306	0.971717	0.90397351	1.000534	1.000133494	19.84235		A	0.198423	0.189087	0.189086626	0.213028912	0.203495	0.993121	5.005056927	0.002801196
B	0.824652	1	0.774601	0.801329	0.745463975	0.361581	0.785953166	15.59308		B	0.16363	0.155931	0.155930751	0.175674816	0.167813	0.81898	5.252200325	
C	1.064615	1.290987	1	0.801329	0.962384106	1.059922	1.014655114	20.13045		C	0.211245	0.201305	0.201304531	0.175674816	0.216644	1.006173	4.998261473	
D	1.029106	1.247927	1.247927	1	0.930284589	1.49092	1.105003288	21.92293		D	0.204199	0.19459	0.251213351	0.219229338	0.209418	1.07865	4.92018914	
E	1.106227	1.341446	1.039086	1.07494	1	1.657499	1.134653721	22.51119		E	0.219501	0.209173	0.209172751	0.235658357	0.225112	1.098617	4.880316045	
							5.040398783										5.011204782	

Reference: Author

Specialist's Viewpoint

Criteria

Table 21. Matrix of AHP 5

Criteria	A	B	C	Multiple	The Forth Power Root	%		Coherency	A	B	C	Total	Total/weight	Coherency Indicator
A	1	0.5	0.2	0.1	0.464158883	11.68496		A	0.11685	0.099905	0.136668	0.353423	3.024595069	0.012297534
B	2	1	0.25	0.5	0.793700526	19.981		B	0.233699	0.19981	0.170835	0.604344	3.024595069	
C	5	4	1	20	2.714417617	68.33405		C	0.584248	0.79924	0.68334	2.066828	3.024595069	
					3.972277026								3.024595069	

Reference: Author

Q4

Table 22. Matrix of AHP 6

Production	A	B	C	D	E	Multiple	The Forth Power Root	%		Coherency	A	B	C	D	E	Total	Total/weight	Coherency Indicator
A	1	0.333	2	0.333	3	0.665334	0.90315009	12.99949		A	0.129995	0.163419	0.093415436	0.083059373	0.249365	0.719254	5.532938475	0.133051416
B	3.003003	1	5	3	3	135.1351	3.409510797	49.07481		B	0.390375	0.490748	0.233538589	0.748282638	0.249365	2.11231	4.304264848	
C	0.5	0.2	1	0.333	0.333	0.011089	0.324505541	4.670772		C	0.064997	0.09815	0.046707718	0.083059373	0.02768	0.320594	6.863827332	
D	3.003003	0.333333	3.003003	1	3	9.018027	1.732917483	24.94275		D	0.390375	0.163583	0.140263417	0.249427546	0.249365	1.193014	4.783008308	
E	0.333333	0.333333	3.003003	0.333333	1	0.111222	0.577494987	8.312172		E	0.043332	0.163583	0.140263417	0.083142515	0.083122	0.513442	6.176989363	
							6.947578608										5.532205665	

Reference: Author

Table 23. Matrix of AHP 7

Managemei	A	B	C	D	E	Multiple	The Forth Power Root	%		Coherency	A	B	C	D	E	Total	Total/weight	Coherency Indicator
A	1	0.333	0.333	0.333	0.333	0.012296	0.333	4.353772		A	0.043538	0.191638	0.022111741	0.038827647	0.066419	0.36204	8.315539826	0.227120218
B	3.003003	1	5	5	5	375.3754	4.401655912	57.54902		B	0.130744	0.57549	0.332053244	0.575490189	0.997277	2.611095	4.537116046	
C	3.003003	0.2	1	0.333	0.333	0.0666	0.508006667	6.641865		C	0.130744	0.115098	0.066410649	0.038827647	0.066419	0.417007	6.278460981	
D	3.003003	0.2	3.003003	1	0.333	0.600601	0.880331902	11.5098		D	0.130744	0.115098	0.199455402	0.115098038	0.066419	0.626814	5.44591421	
E	3.003003	0.2	3.003003	3.003003	1	5.418232	1.525542544	19.94554		E	0.130744	0.115098	0.199455402	0.345630753	0.199455	0.990383	4.965405303	
							7.648539626										5.908512873	

Reference: Author

Table 24. Matrix of AHP 8

Marketing	A	B	C	D	E	Multiple	The Forth Power Root	%		Coherency	A	B	C	D	E	Total	Total/weight	Coherency Indicator
A	1	0.333	1	0.333333	0.333	0.036963	0.439471937	5.669771		A	0.056698	0.189533	0.049900316	0.074674389	0.03337	0.404176	7.128605147	0.212297462
B	3.003003	1	5	5	5	375.3754	4.401655512	56.91675		B	0.170263	0.569168	0.24950158	1.120115842	0.501056	2.610105	4.585328422	
C	1	0.2	1	0.333	0.333	0.022178	0.385904298	4.990032		C	0.056698	0.113834	0.049900316	0.074599715	0.03337	0.328402	6.58115266	
D	3	0.2	3.003003	1	5	9.009009	1.732484091	22.40232		D	0.170093	0.113834	0.149650799	0.224023168	0.501056	1.158857	5.172933425	
E	3.003003	0.2	3.003003	0.2	1	0.360721	0.774984258	10.02113		E	0.170263	0.113834	0.149650799	0.044804634	0.100211	0.578964	5.777429981	
							7.733504096										5.849189927	

Reference: Author

Q5

Table 25. Matrix of AHP 9

Production	A	B	C	D	E	Multiple	The Forth Power Root	%		Coherency	A	B	C	D	E	Total	Total/weight	Coherency Indicator
A	1	5	3	5	5	375	4.400558684	52.25392		A	0.522539	0.153221	0.905064447	0.265519281	0.460123	2.306467	4.413959536	0.189964296
B	0.2	1	0.2	0.333	0.333	0.004436	0.258069758	3.064419		B	0.104508	0.030644	0.06033763	0.017683584	0.030644	0.243817	7.956399634	
C	0.333333	5	1	5	5	41.66667	2.540669741	30.16881		C	0.17418	0.153221	0.301688149	0.265519281	0.460123	1.354731	4.49050164	
D	0.2	3.003003	0.2	1	0.333	0.04	0.447213595	5.310386		D	0.104508	0.092025	0.06033763	0.053103856	0.030644	0.340618	6.414188043	
E	0.2	3.003003	0.2	3.003003	1	0.360721	0.774984258	9.20246		E	0.104508	0.092025	0.06033763	0.15947104	0.092025	0.508366	5.524237074	
							8.421490037										5.759857185	

Reference: Author

Table 26. Matrix of AHP 10

Managemei	A	B	C	D	E	Multiple	The Forth Power Root	%		Coherency	A	B	C	D	E	Total	Total/weight	Coherency Indicator
A	1	5	5	5	5	625	5	59.73063		A	0.597306	0.303435	1.175786647	0.267123489	0.267123	2.610775	4.370914835	0.122496996
B	0.2	1	0.333	1	1	0.0666	0.508005667	6.0667		B	0.119461	0.060687	0.078307391	0.053424698	0.053425	0.365305	6.019494571	
C	0.2	3.003003	1	5	5	15.01502	1.968481976	23.51573		C	0.119461	0.182243	0.235157329	0.267123489	0.267123	1.071109	4.554860336	
D	0.2	1	0.2	1	1	0.04	0.447213595	5.34247		D	0.119461	0.060687	0.047031466	0.053424698	0.053425	0.334029	6.252335085	
E	0.2	1	0.2	1	1	0.04	0.447213595	5.34247		E	0.119461	0.060687	0.047031466	0.053424698	0.053425	0.334029	6.252335085	
							8.370914835										5.469987982	

Reference: Author

Table 27. Matrix of AHP 11

Marketing	A	B	C	D	E	Multiple	The Forth Power Root	%	Coherency	A	B	C	D	E	Total	Total/weight	Coherency Indicator
A	1	5	5	5	5	625	5	59.73063	A	0.597306	0.303435	1.175786647	0.267123489	0.267123	2.610775	4.370914835	0.122496996
B	0.2	1	0.333	1	1	0.0666	0.506005667	6.0687	B	0.119461	0.060687	0.078307391	0.053424698	0.053425	0.365305	6.019494571	
C	0.2	3.003003	1	5	5	15.01502	1.968481976	23.51573	C	0.119461	0.182243	0.235157329	0.267123489	0.267123	1.071109	4.554680336	
D	0.2	1	0.2	1	1	0.04	0.447213595	5.34247	D	0.119461	0.060687	0.047031466	0.053424698	0.053425	0.334029	6.252335085	
E	0.2	1	0.2	1	1	0.04	0.447213595	5.34247	E	0.119461	0.060687	0.047031466	0.053424698	0.053425	0.334029	6.252335085	
							8.370914835									5.489987382	

Reference: Author

Q6

Table 28. Matrix of AHP 12

Production	A	B	C	D	E	Multiple	The Forth Power Root	%	Coherency	A	B	C	D	E	Total	Total/weight	Coherency Indicator
A	1	0.333	1	1	1	0.333	0.759645655	10.59844	A	0.105984	0.204499	0.093301412	0.093301412	0.093301	0.590388	5.570517198	0.036236635
B	3.003003	1	5	5	5	375.3754	4.401659512	61.41114	B	0.318271	0.614111	0.466507061	0.466507061	0.466507	2.331904	3.797200176	
C	1	0.2	1	1	1	0.2	0.668740305	9.330141	C	0.105984	0.122822	0.093301412	0.093301412	0.093301	0.508711	5.452338442	
D	1	0.2	1	1	1	0.2	0.668740305	9.330141	D	0.105984	0.122822	0.093301412	0.093301412	0.093301	0.508711	5.452338442	
E	1	0.2	1	1	1	0.2	0.668740305	9.330141	E	0.105984	0.122822	0.093301412	0.093301412	0.093301	0.508711	5.452338442	
							7.167526082									5.14494654	

Reference: Author

Table 29. Matrix of AHP 13

Managemer	A	B	C	D	E	Multiple	The Forth Power Root	%	Coherency	A	B	C	D	E	Total	Total/weight	Coherency Indicator
A	1	0.333	1	1	1	0.333	0.759645655	10.59844	A	0.105984	0.204499	0.093301412	0.093301412	0.093301	0.590388	5.570517198	0.036236635
B	3.003003	1	5	5	5	375.3754	4.401659512	61.41114	B	0.318271	0.614111	0.466507061	0.466507061	0.466507	2.331904	3.797200176	
C	1	0.2	1	1	1	0.2	0.668740305	9.330141	C	0.105984	0.122822	0.093301412	0.093301412	0.093301	0.508711	5.452338442	
D	1	0.2	1	1	1	0.2	0.668740305	9.330141	D	0.105984	0.122822	0.093301412	0.093301412	0.093301	0.508711	5.452338442	
E	1	0.2	1	1	1	0.2	0.668740305	9.330141	E	0.105984	0.122822	0.093301412	0.093301412	0.093301	0.508711	5.452338442	
							7.167526082									5.14494654	

Reference: Author

Table 30. Matrix of AHP 14

Marketing	A	B	C	D	E	Multiple	The Forth Power Root	%		Coherency	A	B	C	D	E	Total	Total/weight	Coherency Indicator
A	1	5	1	1	1	5	1.495348781	26.0621		A	0.260621	1.948596	0.116553248	0.116553248	0.116553	2.558877	9.818384693	0.407630197
B	0.2	1	5	5	5	25	2.236067977	38.97193		B	0.052124	0.389719	0.582766238	0.582766238	0.582766	2.190142	5.619794405	
C	1	0.2	1	1	1	0.2	0.668740305	11.65532		C	0.260621	0.077944	0.116553248	0.116553248	0.116553	0.688225	5.904608282	
D	1	0.2	1	1	1	0.2	0.668740305	11.65532		D	0.260621	0.077944	0.116553248	0.116553248	0.116553	0.688225	5.904608282	
E	1	0.2	1	1	1	0.2	0.668740305	11.65532		E	0.260621	0.077944	0.116553248	0.116553248	0.116553	0.688225	5.904608282	
							5.737637674										6.630520789	

Reference: Author

Q8

Table 31. Matrix of AHP 15

Production	A	B	C	D	E	Multiple	The Forth Power Root	%		Coherency	A	B	C	D	E	Total	Total/weight	Coherency Indicator
A	1	0.333	0.333	0.333	5	0.18463	0.655504498	10.9061		A	0.109061	0.055404	0.149568294	0.072933507	0.372031	0.757097	6.940466041	0.249183105
B	3.003003	1	0.333	1	1	1	1	16.63772		B	0.327511	0.166377	0.149568294	0.219019541	0.074406	0.930882	5.595007053	
C	3.003003	3.003003	1	1	5	45.09014	2.591316046	43.1136		C	0.327511	0.499631	0.451136019	0.219019541	0.372031	1.849328	4.289431332	
D	3.003003	1	1	1	1	3.003003	1.316403237	21.90195		D	0.327511	0.166377	0.451136019	0.219019541	0.074406	1.21945	5.563200278	
E	0.2	1	0.2	1	1	0.04	0.447213595	7.440617		E	0.021812	0.166377	0.090227204	0.219019541	0.074406	0.567942	7.631657391	
							6.010437377										5.996732419	

Reference: Author

Table 32. Matrix of AHP 16

Management	A	B	C	D	E	Multiple	The Forth Power Root	%		Coherency	A	B	C	D	E	Total	Total/weight	Coherency Indicator
A	1	0.333	0.333	0.333	1	0.036926	0.438362278	8.136546		A	0.081365	0.081365	0.081365461	0.081365461	0.185612	0.511074	6.281218185	0.047386357
B	3.003003	1	1	1	1	3.003003	1.316403237	24.43407		B	0.244341	0.244341	0.244340723	0.244340723	0.185612	1.162975	4.759645655	
C	3.003003	1	1	1	1	3.003003	1.316403237	24.43407		C	0.244341	0.244341	0.244340723	0.244340723	0.185612	1.162975	4.759645655	
D	3.003003	1	1	1	1	3.003003	1.316403237	24.43407		D	0.244341	0.244341	0.244340723	0.244340723	0.185612	1.162975	4.759645655	
E	1	1	1	1	1	1	1	18.56124		E	0.081365	0.244341	0.244340723	0.244340723	0.185612	1	5.38757199	
							5.38757199										5.189545428	

Reference: Author

Table 33 Matrix of AHP 17

Marketing	A	B	C	D	E	Multiple	The Forth Power Root	%		Coherency	A	B	C	D	E	Total	Total/weight	Coherency Indicator
A	1	0.333	0.333	0.333	0.333	0.012296	0.333	5.726943		A	0.057269	0.112734	0.050416107	0.075396865	0.07539	0.371199	6.481620053	0.099224523
B	3.003003	1	5	1	1	15.01502	1.968481976	33.85401		B	0.17198	0.33854	0.756098698	0.226395369	0.226395	1.72031	5.091554255	
C	3.003003	0.2	1	1	1	0.600601	0.880331902	15.13997		C	0.17198	0.067708	0.151399722	0.226395369	0.226395	0.843979	5.573846363	
D	3.003003	1	1	1	1	3.003003	1.316403237	22.63954		D	0.17198	0.33854	0.151399722	0.226395369	0.226395	1.114711	4.923734742	
E	3.003003	1	1	1	1	3.003003	1.316403237	22.63954		E	0.17198	0.33854	0.151399722	0.226395369	0.226395	1.114711	4.923734742	
							5.814620353										5.396898091	

Reference: Author

In conclusion, cluster side seems to diversify the demand while their clustering. Compare to specialists view, they should select the usage of resources and concentrate on the specific agenda for their clustering. It means to encourage each cluster's stakeholder to change its mind for each clustering. It consists of five points below:

1) Each stakeholder in its cluster should, first of all, become more proactive manner rather than passive reaction to clustering procedure. It should be set up the first priority agenda behind clustering procedure. Without any such initiative notion from cluster side, nothing happens in each cluster because some failures occurred also in almost all Japanese cluster.

2) As Michael Porter emphasized it, "networking" is quite significant factor for cluster development. It is suggested that this type of notion should be instructed every stakeholder in the educational programs provided by MI.

3) In accordance with the radical changed structure of IoT, or internet of things, architecture, it should be utilized for Electric commercial channels or "E-commerce" from the trade strategy of the cluster. It has much more advantages if each cluster captures some opportunities of the concept of cross-border E-commerce which is now established and disseminated into the global market, especially emerging Asia. In case, not only B to B, or Business to Business trade but also B to C, or Business to Consumer, in case C to C or Cluster to Consumer, is marching to the top prior channel for the trade policy from each cluster.

4) In the same line with 3), the radical transformation in trade trend is being changed from Consumer requirement directly to cluster side. It means to connect directly between global consumer market and each cluster through IoT technology. In case, it may also utilize crowd finding or fin-tech in the tool of financing. This strategic way of connection will be discussed later.

5) Finance Support is also still bottleneck for developing clusters in the SEC. To some extend to the JAIF project, it is also requiring JBIC or Japan Bank of International Cooperation which can provide some financial supporting facility for SMEs which can connect to Japanese SMEs, as well as ADB or Asian Development Bank or some other financial donner who can assist industrial development rather than infrastructure development so far. In this regard, if the SEC data base created by MI can provide more precis information for each credit information from cluster, it can also help clustering through financial facility.

Comparison Analysis

OVOP and Roadside Station

When it comes to local cluster development, it must get an existing sample in Japanese typical local development or OVOP. OVOP stands for "One Village, One Product" movement. This project initiated by Governor of Oita Prefecture, Kyushu in Japan, Morihiko, Hiramatsu, in 1979 after learning the existing project, say, "New Plum and Chestnut Movement" in Oyama Town in Oita Prefecture since 1961.

"Think globally, action in local" or "Glocal," which is an invented word from global plus local, was a catch phrase for this movement. In this movement, each village or town select their own potential business field and then focuses on the enhancement of its productivity or profitability selling them toward global market.

The outcome of this OVOP has already been appeared in 336 localities and counted the production selling as more than 140 billion JPY. These items cover special fruits, local branding fish and beef as well as Sake in this area.

This movement has already spread toward all over the world such as "OTOP: One Tambon One Project" in Thailand or the same concept in Cambodia, in China and even in Africa.

Therefore there is no need to rephrase this movement but it should be rather more concrete value creation in addition. To some extent, some OVOP areas in Japan combine with new infrastructure, so-called roadside station. OVOP as a prototype of a variety of local cluster development method has already modified in each country. However if it adds more tangible platform for this movement, it will be able surely to get more benefit from this movement. This is "roadside station" project in the SEC for the future cluster development alongside the corridor.

"Roadside station" is not just a stop service center in Japan. From the Japanese experiences of roadside station, it can contribution toward providing test market place as well as new production Research & Development (R&D) hub from local food processing products and agriculture products there. They can also show some best practices for inventing new product because some many customers stop by this site during their driving.

Apart from them above, roadside station can provide a variety of aspects in the SEC in case: it can support inclusive development and de-centralization of Mekong sub-region in accordance with infrastructure development such as road and bridge. In this paper, it should be again and again emphasized upon the significance of industrial linkage and activities with infrastructure development. Both two aspects: industry and infrastructure are in the relationship between "chicken and egg." So if it makes each cluster more robust development through roadside station, it can create new demand for transportation and logistics alongside the corridor. Roadside station can enhance some power of local and then to compensate for local distribution as for inclusive development.

This can also contribute to promote more consumption in Mekong sub-region, especially for local good. "local production for local consumption" seems a trend word for regional development. Previous concept of Mekong sub-region development relatively focus upon the production hub, but in accordance with economic growth in this region, roadside station can become a hub for local consumption and platform for developing local items.

If roadside station would be established in the area alongside the cross-border area on which we are focusing, it also good for new business creation as well as tourism promotion for the corridor.

In addition, it creates new facilities for drivers, such as a modern restroom or refresh area, these soft power can reduce traffic accident in the corridor and if it adds to build the special facility attached to the roadside station, such as "Cold Chain," roadside station will be a strong supporting function for agriculture development. We can find these facilities above in the Figure 20 below.

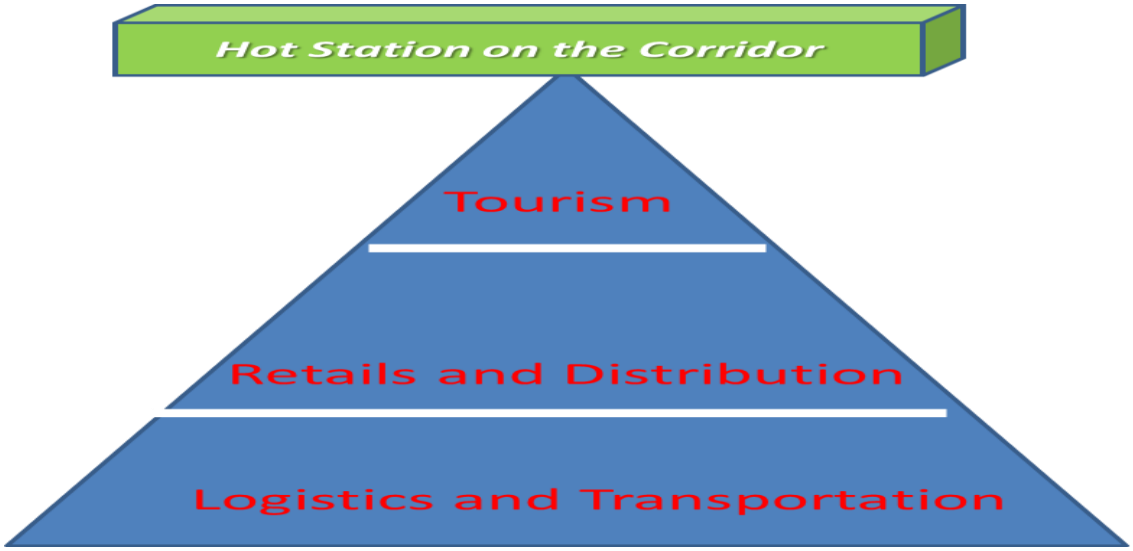


Figure 66. Structure of Roadside Station
Reference: Author

Figure 67. Three Significances from Roadside Station
Reference: Author

How to mobilize this roadside station alongside SEC? Monetization seems one of the serious issues behind the development of the roadside station in SEC.

Therefore it should be kept in mind these additional policy measures below, when it comes to roadside station in SEC project:

Table 34. Additional Measures for Roadside Station in SEC

Category	Features
Purpose	OVOP type Cluster development
Legal Framework	Special Economic Zone for Retails
Finance	PFI: Private Financial Initiative & Separation between Ownership and Operation Upper: SPV with JOINT And gathering a variety of partners: - Infrastructure: Road Operation Companies - Retail Service: Retailers - Logistics Service: giant Logistics providers - Tourism: Travel Agency - Housing Co, Architects, Designers, Developers, and so on Lower: JICA-ODA Loan / ADB Especially "Sector Loan"
Partner	Japanese Cool Japan Stuff
Additional	Disaster Refugee Center

Reference: Author

Table 35. Strategic significances for roadside station

TOPICS	Contents
Maintenance for SEC Road	Running cost financed by
Mile Stone for liberalization in Retail of SEC	SEC Free Retails Area as SEZ of Retail
SMEs Development	OVOP plus R&D Platform in roadside station
Mekong-Japan Symbol	Cool Japan Stuff in roadside station
Mekong Tourism 2.0	Mutual Tourism Hub between Mekong and Japan
Disaster Prevention	Learning disaster prevention best practices and disaster refugee Center

Reference: Author

TAMA Cluster and other successful clusters in Japan

Although OVOP model seems to be one of the prior best practices of developing cluster from Japanese experiences, we can observe another type of cluster in Japan. You can find three types of cluster in Figure 36

Before starting cluster development in Japan, "enterprise castle" was a typical example. This "enterprise castle" means that the vertical type of supply-chain in the same area after the big company location. Panasonic in Osaka, Sanyo in Tottori and Toyota in Toyota city are good examples. However the decline of these "Enterprise Castles" happened in line with Japanese economic down turn. Sanyo in Tottori was one of the serious cases in which Tottori cluster was gone just after Sanyo was bankrupted.

TAMA is one of the most success clusters or only the best cluster in Japan and a typical cluster for functional version of cluster. TAMA stands for "Technology Advanced Metropolitan Area" in the west skirt surrounded by Tokyo Metropolitan.

The reason why TAMA is one of the best success stories for developing cluster in Japan is to bring some tremendous outcomes and best impact from this cluster.

Total production output counts almost double from Silicon Valley in the United States which is equal to about 24 trillion JPY. More than 380,000 Business sites located in TAMA with 23 TAMA member institutes out of 40 universities or research institutes in TAMA area. Furthermore one of the most important facts is that a majority of the companies is SMEs but they seek to promote R&D activities.

Therefore this phrase by Mr. Hideto Okazaki, former Secretary General of TAMA Cluster Association, express the essence of TAMA cluster, says, "If you have any idea of product, you can walk in TAMA, TAMA can make any your idea materialized!"

Table 35. Lessons from Japanese Clusters

Category	Feature	Recent Situation
Functional Cluster	TAMA, Ota Ku, Higashi Osaka, Kyoto SHISAKU Networking	Potential Sector in future
Enterprise Castle	Japanese Mega Companies Production Hub	Decline because of the change from Supply-chain to Network
Local Product Cluster	OVOP	Lessons to Cross-border Clusters in SEC

Reference: Author

Even you can find another cluster in Japan, only two typical clusters: Ota ku and Higashi Osaka, one in Tokyo, the other in Osaka are just following TAMA cluster. You can find the geographical situation of Japanese clusters in Figure 35.

Compare to TAMA cluster, Ota ku and Higashi Osaka are also R&D based cluster but they seems to belong to a subcontractors to each big companies. Therefore the game is the same as previous Japanese production system.

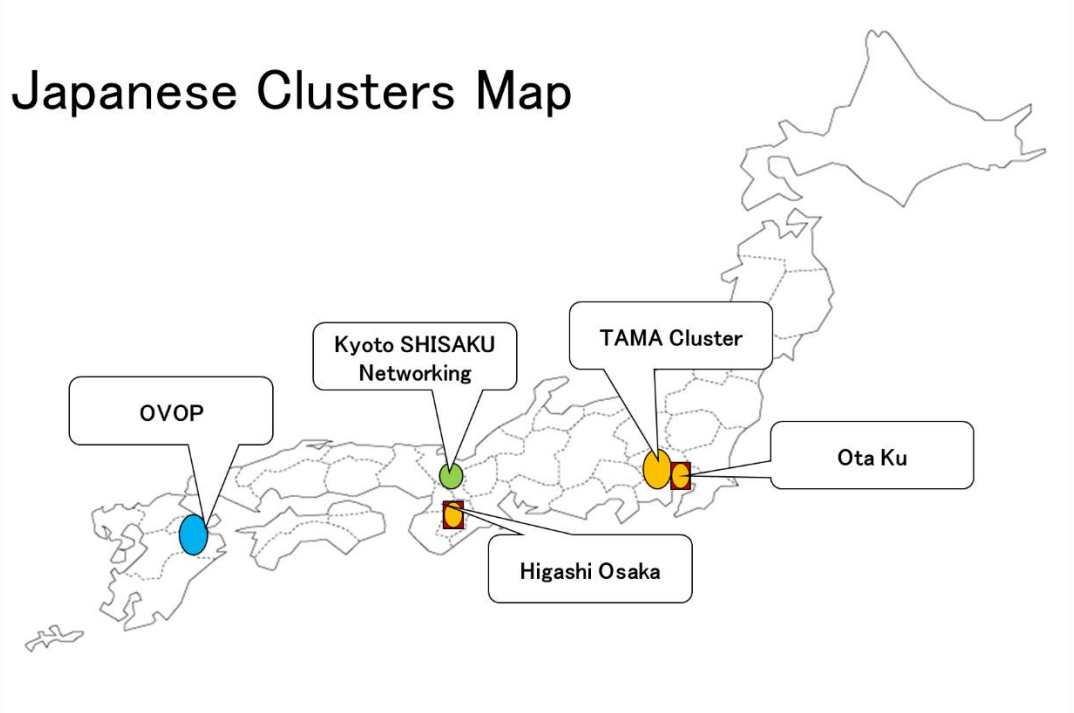


Figure 68. Japanese Cluster Map
Reference: Author

If you want to get more practical clusters to be a next global market, you can find a new idea for cluster function. This is Kyoto SHISAKU network which is located in Kyoto. Even in Japanese ancient capital, this SHISAKU network has a great industrial accumulation of SMEs.

Cluster sometimes dedicates to some specific function. Kyoto SHISAKU network comes from this type of cluster dedicated to innovation from Research and Development (R&D). "SHISAKU" stands for making of prototypes in Japanese language but this term is now going to be a global language in the global manufacturing community. Generally speaking, before starting mass production, every manufacturing maker has to try some prototypes. However one of the most serious challenges behind this is to reduce both of cost and lead-time.

Kyoto SHISAKU network consists of a variety of technologies related to prototype production below:

Table 36. Variation of Kyoto SHISAKU Network Technologies

Category of Technology	Requirements (2006-2015)	Planning >Design >>Initial Prototype >>>Molding, metal pressing, … >>>>Finalization & Production Preparation >>>>>Scale for Mass Production
Metal Processing	17%	
Surface Treatment	1%	
Resin Treatment	17%	
Casting	1%	
Welding		
System Development	(6%)	
Circuit Board Development	(13%)	
Machining	40%	

Reference: Author made it based on Kyoto SHISAKU network materials. ( ) is just estimation from the statistics.

Kyoto SHISAKU network with only 10 small machining and metal processing companies started since 2001. They were inspired by Peter Drucker, a founder of business administration or management and to develop a consortium in order to set up a collective hub and a single window for prototyping.

The number of Kyoto SHISAKU network consists of more than 20 companies and has already supported more than 7500 projects not only from domestic market but also from overseas.

One of the most renowned facilities of Kyoto SHISAKU network is to reply quick response to any requirement of clients. They said that speedy response is the top priority of their business. Therefore they can guarantee a response to contacts within 24 hours. This is why that the function of prototype trail can be outsourced to Kyoto SHISAKU networking as a hub for the starting up business manufacturing in the world.

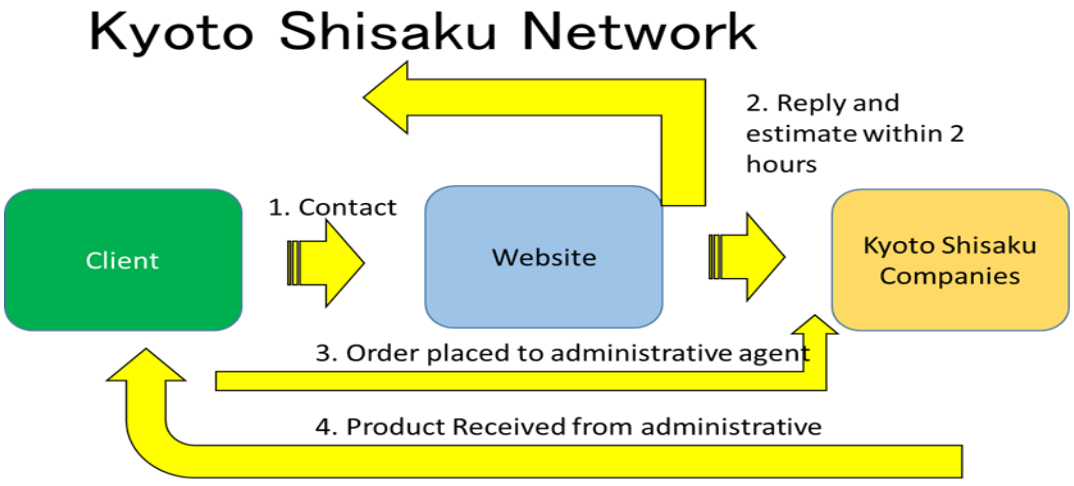


Figure 69. System for Kyoto SHISAKU networking
Reference: Kyoto Shisaku.com
http://kyoto-shisaku.com/en/about/

Lessons from Japanese Clusters for SEC

Even though it is observed that these brilliant successful clusters in Japan, Almost all of Japanese clusters, to be honest, seems to be failed.

Table 37. Category of Cluster

	Feature	Nationwide or Regional	Agenda
Italy	Mastership	Local	Industrial Divide
US	Network	Local to Region	Silicon Valley
Japan OVOP	Global Market Select & Concentration	Local	Oita Pref.
Japan Cluster Policy	Sub-contractor to Tech SMEs	Region	Region
Thailand 1.0 & 2.0	OTOP inspired by Japanese OVOP: Political legacy	Regional (Local)	Narrowing gap between urban & rural
Thailand 3.0	Value Chain by Michel Potter	Nationwide	Preparation of post FDI driven economy
Thailand 4.0	Thailand 4.0	Regional	Middle Income Trap

Reference: Author

As the definition of cluster in the paper, cluster is not a statistics stuff but a dynamic feature which can go on for development. Therefore a phenomena of "clustering" is so serious.

In terms of the relationship between cluster and corridor, we can find a couple of the best practices from Japanese experiences. History of the development of typical Japanese clusters in the west and in the east of Japan, Ota ku and Higashi Osaka City envisage the future relationship between SEC and each cluster for the one evolution type. Ota ku and Higashi Osaka City are both located in the outer region of both metropolitan area, Tokyo and Osaka. The reason why these areas were elevated for the developed was the phenomena of industrial allocation from the city heart to the outskirts in accordance with the conjunction in the city center in the rapid economic growth in Japan during 1950 to 1960.

This implication can support the fact that cluster will be developed on the base of connectivity but this will come from the city center via outskirts to rural area. In the framework of Economic geography, the "gravity" of a big accumulation spot can deal

with the connectivity. Therefore SEC has a superior advantage for the development in future because SEC has two mega metropolitan between the west and the east: Bangkok in Thailand and Ho Chi Ming in Viet Nam.

The story of Higashi Osaka City and Ota ku also gives us another great perspective on SEC as an economic corridor; say, Pacific Ocean Belt effects in Japan. Pacific Ocean Belt is the main economic corridor in Japan and the agglomeration of any industry from the upstream to the downstream in the end. This could also contribute toward "Japan Miracle" or more than 10 % economic growth in 1960. One of the most advantages in the Pacific Ocean Belt is the connection between infrastructure development and industrial accumulation or agglomeration and utilizes the port facility as each captive port alongside the Pacific Ocean. Without any port for export, nothing happens for economic growth in each country. In the same sense, SEC has to get the deep sea port such as Dawei connected with Bangkok and Cai Mep-Thi Vai near Ho Chi Ming.

CONNECTOR

Connectors will be able to be required as for the cluster development. Mr. Hideto Okasaki, former Secretary General of TAMA cluster, was an actual founder of the TAMA cluster and without him there is no success of the cluster as a whole. In this way, SEC also wishes to hire the "connector" in each cluster in the end.

Regulatory Environment as SEC VC Bottlenecks

Meaning of Regulatory Environment

In terms of regulatory environment of logistics in the Mekong-sub region, so many prior researches have been done[xiv]. Apart from academic researches, so many policy measures have been also already applied into this region. However these institutional measures are usually taken some time to be materialized. Some tangible solutions are brought unconsciously from specific and private activities of multinational companies. For instance, AEON, a Japanese giant retailer, which has already launched a big shopping mall in Phnom Penh, has procured more than 3,000 items from Thailand to Cambodia. Through this logistics, they cultivated new logistic practices from Thailand to Cambodia in the end. Therefore this de-facto standard should be more seriously taken into account rather than an institutional approach to reform the logistics arena in this region.

To tell the truth, regulation itself is not a prior agenda for cross-border bottlenecks because if these regulation frameworks would be gone, without any tangible trade and any economic relationship, it is meaningless for the clue of any business creation or increasing of traffic of a border trade. Even though regulatory reform among countries alongside the SEC should be shared, they should also concentrate their policy resources into realization of business connectivity and cluster linkage across

each border. In this chapter, it should be reviewed to focus on the existing supports as well as the cluster to cluster relationship both from each partner region between the cross-border in line with the Regulatory Matrix in the following paragraph. But please keep in mind that this study and its policy recommendation should relatively focus on the private market driven rather than public government driven.

Table 38. Characteristics of this Study

	This Study	Previous Literatures
Direction	de-facto	De-jure
Driving Force	Private Economic Driven	Public Government Driven

Reference: Author

Regulatory Matrix

Before discussing the Regulatory Matrix, we have to trace a couple of significant issues behind logistics in the cross-border in the Mekong sub-region, while conducting some interviews not only from the stakeholders in each cluster but also from the specialists of transportation or business consultation. It consists of five issues below:

- Clarification of Taxation Criteria
- Introduction of EDI (Electric Data Interchange) system
- Utilization of Returnable Box ("Kayoi Bako")
- Solution against "Way-One Problem" (Traffic Unbalance)
- Visualization of Opaque Cost

These issues above have been mentioned again and again in this region during twenty years when ASEAN Economic Community was under discussion and implementation.

Therefore this research will divide two directions of the regulatory environment in the SEC as for more practical solutions. In terms of regulation, it consists of two types of facilities regarding with regulations: one is to prohibit some activities and the other is to promote something ideal behaviors. In this aspect, we can get the Regulatory Matrix which can show the perspective on the regulatory environment.

Table 39. Regulatory Environment

	Cross border	Domestic Issues
Value addition	Cold-chain	PE (Permanent Establishment)
Avoid challenges	White List Operation	Vender Managed Inventory

Reference: Author

For example, some bilateral or trilateral mutual transportation agreements has already been issued and activated in this field but it is time to increase the number of these activities with responding to the demand of traffic.

Table 40. License for Mutual Transportation

	Year of Activating	The Number of License for each country
Between Thai & Cambodia	2011	40 cars
Between Vietnam & Cambodia	2013	300 cars (2012)

Reference: Making it based on the ADB and JETRO publication

Cold chain is another issue behind the clustering in some clusters because almost all of the clusters belong to the specific food and agriculture industries which really require the facility of cold chain in order to deliver their items to the global market as well as even to the regional market.

But the regulatory environment seems not to be able fully to support the cold chain. Rather than this, in this paper, it should be relied upon the private business activities for the cold chain business as BDS. Local to local approach or SEC GO! approach will be found in the final two chapters.

Review for existing Policy Framework for Policy Recommendation

Prior studies sometimes emphasize on the problem of the legal framework of each country alongside the SEC. However, this seems one of the reasons why something trouble happens in this region and official policy framework also seems not to be activated in each specific industrial cluster. Therefore, this policy can reveal more accurate situation of the problem as a practice under the status quo and what kind of practice as best practice is more feasible in this context. This is the reason why it should review the existing policy framework.
MI research paper has already discovered strong and weak points of each cluster. While utilizing these output above, this study conducted more depth analysis about the potential of each industrial cluster while considering two issues: one is to provide some catalysts for creating cluster environment as for "clustering;" the other is to expand the network of industrial cluster-linkage in future. From these existing policy frameworks, we can pick up some criterion for policy recommendation.

Criteria for making "Policy" should be clarified when it comes to policy recommendation. "Policy Recommendation" is sometimes just a paper not to be

feasible for its implementation. Therefore more practical options should be considered for policy under the criteria below:

- Implementation for policy
- PPP (Public-Private-Partnership)
- Transaction Cost from Governments
- Business Viewpoints
- Feasibility for Materialization

Policy Recommendation

These criteria in the end of the previous chapter are under the consideration for our submission of policy recommendation which should be divided into two types of recommendation.

Table 41. Policy Recommendation 1.0 to 2.0

	Policy Recommendation1.0	Policy Recommendation2.0
Initiative	Governmental Initiative	Business Initiative
Purpose	National Interest First	Regional Interest First
Connectivity	Physical Infrastructure Connectivity	Virtual Industrial Connectivity Or Value-Network

Reference: Author

In this way, in terms of assurance of more feasibility and more effectiveness, it should be emphasized that private initiative and more business oriented approach and industrial connectivity based on the cluster linkage under the intra and international value network. In other words, our target should solve the bottlenecks of value-chain in the SEC and this is the same function as how to integrate both each cluster and the entire corridor, or clustering and ensuring the corridor.

Why we should try to focus on this policy recommendation 2.0? – Simple answer can be laid on the test bed of innovation in the SEC whose viewpoints might be newly constructed. Yes, SEC is NOT regarded as the sub-contractor of the world, but the innovation hub for the world in accordance with the business vital activities from the micro viewpoint of and robust economic growth in macro economy. Through the research above, it can be assured to be implemented in this stage from now on. But how and where and why we should pick up SEC as innovation hub rather than advanced economy?

In these policy recommendations, it brings both the answers how to create some innovations from the SEC and the classification of each cluster as innovation wise.

Finally we can understand that SEC should become a candidate for innovation hub in the world in the end of discussion.

In order to demonstrate our observation for the SEC, this policy recommendation package must consist of 5 agenda: Business Development Service Standard, Biz-Aca-Cooperation Standard, Local to Local Cooperation Approach, Mezzanine Level Infra structure – Roadside Station, and SEC GO! These measures can solve the bottlenecks of SEC and then to cover the whole strengthen of each cluster and the entire corridor.

In this session, we try to understand each policy to be analyzed in the following paragraph.

Potential of BDS (Business Development Service)

What is the most serious factors for clustering or solving the problems in the value-chain in the SEC? – Answer is in one word, "BDS." When it comes to the BDS, it should be built up the facilities and soft and hard infrastructures in accordance with the standard of SEC as well as marketing both of global market and regional market. BDS stands for Business Development Service which also includes a variety of services but main issues are three: Person, Technology and Finance.

In this paper, we try to define "BDS" as more broad vision to become a "connector" between business to business or Government and academia and so on. Therefore BDS is the key figures and then to whom it should provide an appropriate training method with them.

In terms of person for BDS, SHINDAN is the best method to develop an accurate BDS in this field. As MI report has already mentioned it, the existence of BDS is one of the most important components for developing each industrial cluster. Therefore, it should be examined about the evaluation capability or ability by Evaluation Method and then to build up the unique methodology about SHINAN or diagnosis of support for SMES while referring previous experiences both in Japan and in the other Asian countries. For example, Japan has SHINDAN system for SME with more than 30- year history. Based upon this, this paper will exam more details of criteria about the Connector as one of BDSs. This SHINDA can support to grow "Connector" who can coordinate each cluster.

We should modify the SHINDAN in the SEC from the original type of Japanese SHINDAN and including TAMA cluster method. Unfortunately Japanese original SHINDAN was declined to the management side only without technology side. TAMA method should be applied to each SEC cluster because this system seems one of the best solutions of clustering in Japan to provide a good success outcome. Based on this human resource development or HRD, it should be introduced the specific technology and the value chain finance or supply-chain finance.

How about technology itself? We can find an answer to this question in "Technology Census Method."

Technology Census is the sister concept of "Industrial Missing Link." If we can introduce this "Technology Census" method into the value chain, we can find the bottleneck of technology of each cluster. If you look at the figure below, it can be easily understood it. Actually if you consider only the industry wise of technology in each value-chain, it is difficult how to point out the bottlenecks of technology. However if you apply the technology census into the field of each segment of value-chain, or cluster as horizontal aspect to each industry, we can pick up what kind of segment of technology is being lack in each cluster and which technology segment should be completed in this corridor as a whole. This can also become the best platform for exchanging technologies among the SEC as well as outside of SEC.

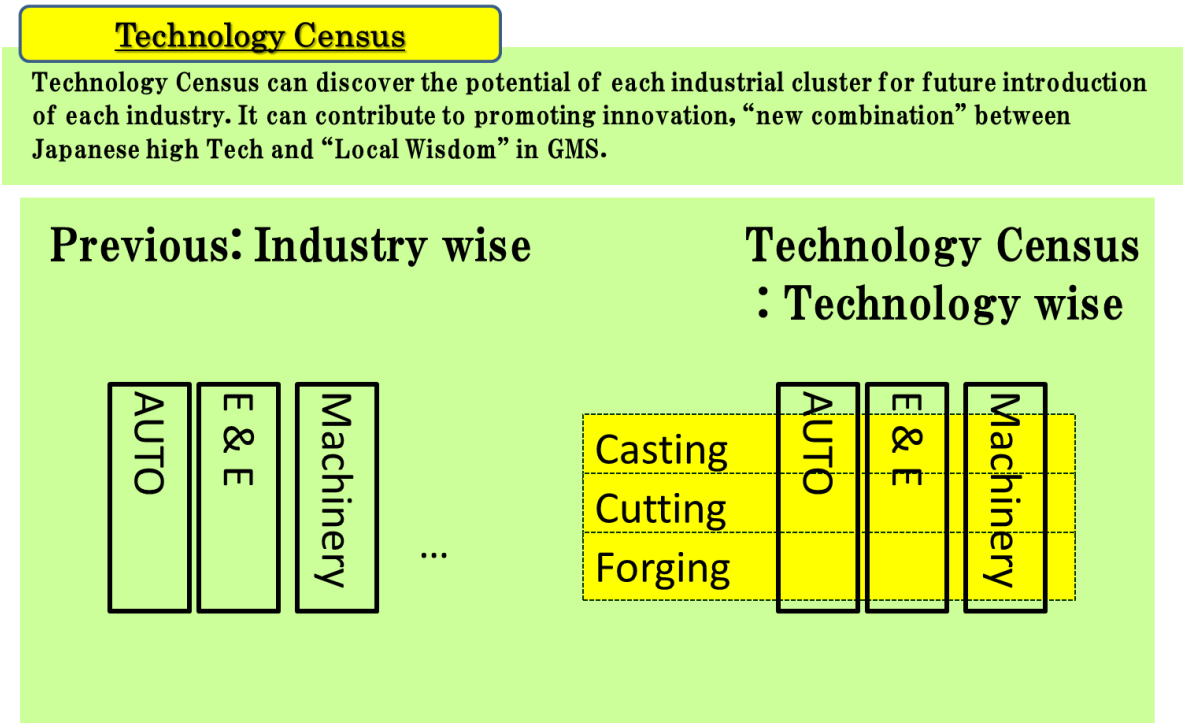


Figure 70. Technology Census
Reference: Author

Supply-chain Finance

Finally we need some finance or money for clustering. So it should be introduced about the Supply-chain Finance into the SEC. Why? Because it is time to enhance the competitiveness of SME (Small and Medium Enterprise) as one of the most serious and challenging problem not only in countries in the Mekong sub-region but also in Japan, especially after ASEAN Economic Community, 2015. However, unfortunately it is also quite difficult issues for implementation phase and especially for financial support and expanding this region. This is so called "SME problem."

Actually "SME Problem" may be overcome not by SME itself alone but by production network as a whole. Therefore we can say supply chain problem as for SME problem because almost all SMEs is regarded as sub-conductor in the supply chain. In this regard, we should discuss this SME Problem as supply chain finance which is absolutely serious impact to each individual SME in this region.

It is necessary for SMEs to make financial regulation more rigid and hard, on the one hand, after Tom Yam Kun Shock in 1997, it should also make some room for introducing more flexible credit creation, on the other hand.
Especially Production Network is now not in closed inside one nation but trans-border activities and this is regarded one of the most serious core competence for Mekong sub-region competitiveness rather than the other region. Therefore under the production network in this region and Mekong sub-region-Japan, it is required to set up new supporting mechanism for series SMEs and relationship between makers and sub-contractors through supply-chain finance system. If we can get these supply chain finance system as ecosystem of this region, we can also provide more sustainable climate for investment into this region.

In terms of supply chain in this great region, disaster problem against the production network is getting more and more important since 2011, both in Japan and in Thailand; March 11 and Mega Flood in the Mekong sub-region. If we can create new supporting system for supply chain including industrial cluster standard as well as its mapping and sister cluster linkages over this region and Japan, we can get more strong resilience of supply chain in this region. This aspect should also be taken into account in this study.

In terms of Finance, it can also found in "Supply Chain Finance." Supply Chain Finance Study will contain three items below:

1) Credit Mechanism trough Purchase Order:
Through getting dedicated information from each stake holder alongside supply chain finance, it should target credit mechanism through purchase order system in advance.

If it can work, all SME can enhance its own business through supply chain relationship. For instance, one auto setting maker provide a purchase order, it takes more than half year to increase the capability of Tier 4 or 5 level SME factory but it needs. Such credit complement system should be considered in purpose of enhancing each SME business.

Kojima Press, company from Chubu region and Tier 2 or 3 suppliers to Toyota, has already conducted some demonstration through trans-boarder EDI system to be utilized for this study.

2) Industrial Cluster Mapping in the Mekong sub-region and Sister Cluster between the region and Japan

Based upon the Credit Mechanism system above, it should be also identified for such industrial cluster location as a map in the Mekong sub-region which can cover the logistics and transportation system or infrastructure development as for supply chain development. This is also regarded as one part of supply chain finance system.

3) The Standard for Cluster
Not only the location of industrial cluster, but also the sustainability of each industrial cluster should be reviled for evaluating it through financial tools such as insurance system. This can contribute to enhancing supply chain through financial mechanism.

If we can create this "Supply-chain Finance system" collaborated with the Bank of Japan (BOJ), we can make SEC more resilience and more robust or proactive economic corridor with the solution of finance problem in the future.

SEC "Biz-Aca Cooperation" MODEL

In this paper, it examined how to contribute to the SMEs and each industrial cluster from Biz-Aca Cooperation in Can Tho cluster in Vietnam. In Japanese experiences or in another developed country, it can be found that Academia could contribute toward creating business or supporting business network as a catalyst. So this study should discuss this point and then provide how this alliance between Business and Academia can work more effectively.

We can pick up Can Tho University as a case of Biz-Aca Cooperation to be promoted. Comparing to the U.S. and European countries and Japan, it is on the way to build up the cooperation between Business and Academia Cooperation in Mekong sub-region. So this is good chance to enhance the cooperation from Can Tho University with local economic community.

Can Tho University has already gotten a cooperation with Nagasaki University focusing on fishery sciences and technologies. This backup system can fully support these activities.

Can Tho Cluster is recently facing quite serious challenges for Cat fish cultivation project. If the cluster can solve these problems, this can become a typical example of pilot case for Biz-Aca-cooperation.

In this research, we have already received a couple of advices from the experts of Nagasaki University just after the meeting with executives of VCCI in Can Tho. These are below:

- Innovative technology for changing catfish taste
- Cultivation method of catfish juvenile which can duplicate more the juvenile.
- One of the serious problems behind that seems to decrease the fish

meal to lack some nutrition for spawning catfish. Therefore it should be introduced to provide new technology for fish meal into this region with Japanese cluster.
- Even in Japan, we can eat Vietnamese catfish in their ordinary supper or lunch, it is called as "basa."
- Water purifying system into the area of the cultivation because of its cleaning in the water area.
- In the end, it includes more specific project as eco-tourism in the Mekong Delta. This eco-tourism project should be more radically different from the existing area for eco-friendly tour, when Nagasaki University, Faculty of Fishery can provide the accurate scientific guidance for the project.

Based on these outcomes from the pilot, we can get the best practices of Biz-Aca Cooperation in Mekong to be registered as A Method or Standard of BAC (Business-Academia-Cooperation) in the end. It must be one of the effective measures for solving some bottlenecks of value-chain in Mekong sub-region.

Feasibility of Local-to-Local Cooperation Approach (Otagai Method)

Otagai Project by Otagai Forum Association

Even if it is understandable for the significance of industrial linkage between the Mekong sub-region and Japan, the implementation body was required. Otagai Project operated by Otagai Forum Association has been taken a main figure for their operating the whole picture of a bridge between us. But this is not only connection but also this is a sort of innovation from this region. And innovation is one of the most vital medicines for the area and it can be brought through the new platform located in-between cross-border.

Under the Otagai project, more than 50 projects going on and 16 local governments join this project. Since 2011, 15 international conferences as Otagai Forum (former "Otagai Conclave[xv]") have been taken place in order to inginate the transnational innovation between the region and Japan. For example, as for these strong expectations to this project from Thai Government, Minister of Industry. Ms. Atchaka Sibunruang already delivered inaugural speech in the opening ceremony on the 13th Otagai Forum in Fukui and Minister of Science and Technology, Dr. Pichet Durongkaveroj also participated in the 14th Otagai Forum in Tokyo. In the 15th Otagai Forum took place in Mandalay of Myanmar, Dr. Aung Naing Oo, Secretary General of Myanmar Investment Committee, participated in this forum.

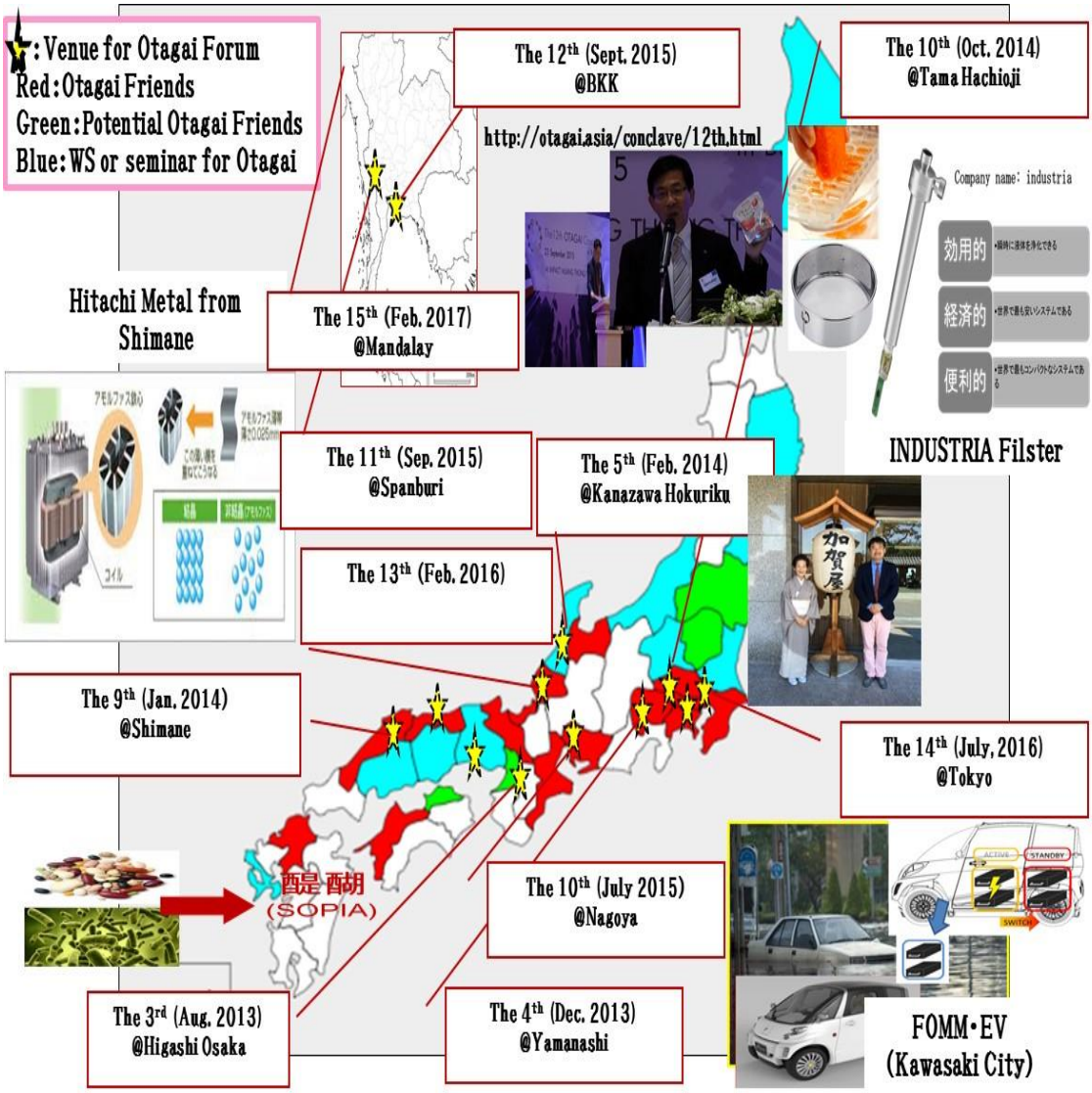


Figure 71. Otagai Project Map and its transnational innovation
Reference: Author

Table 42. Chronology of Otagai Forum Event

	Timing	Venue	Purpose	Outcome
1st	Apr.2013	Tokyo	Supporting for JP SMEs activities & Missing Links	Recognize SMEs Investment to ASEAN as cluster wise and agree the significance of Otagai Project
2nd	Jun.2013	Tottori	Introduction of Technology Census	Invent "Technology Census for Technological Missing Link" and cooperate Thai SME "Shindan"
3rd	Aug.2013	Osaka	Extension from Thailand	Expand Otagai Project toward Thai Plus One countries such as Vietnam and Lao PDR
4th	Dec.2013	Yamanashi	Alliance with Industrial Association	Introduce FA system in order to overcome "Middle Income Trap" in Thailand
5th	Feb.2014	Hokuriku Kanazawa	Sustainable Tourism	Start "Sustainable Tourism Industry" as industrial policy
6th	May.2014	Ibaragi	Regional Linkages in Emerging Asia	Encourage Tourism Industrial Alliance in Japan for Emerging Asia
7th	Jul.2014	Himeji	Industrial development by Tourism	Mutual Cooperation between Japan and ASEAN for developing value-chain
8th	Oct.2014	TAMA Hachioji	Issues Solution Business Matching	Create the method of "Reverse Innovation Matching"
9th	Jan.2015	Shimane Okuizumo	New Supporting Mechanism	Apply JCM and BCP policy to Local Revitalization Policy in Japan with Emerging Asia
10th	Jul.2015	Aichi	Supply Chain Finance	
11th	Sep.2015	Spanburi	SEC Development	Picking up local companies in Spanburi
12th	Sep.2015	Bangkok	SAMURAI Presentation	Enhancing Transnational Innovation
13th	Feb.2016	Fukui	SAMURAI Presentation	Enhancing Transnational Innovation Agromovation, Aquanovation, Supplinovation
14th	Jul.2016	Tokyo	SAMURAI Presentation	Enhancing Transnational Innovation via Big Data
15th	Feb.2017	Mandalay Myanmar	SAMURAI Presentation	Finding solution business in Agriculture & Food Processing

Reference: Author

Table 43. Pattern of Innovation under the Otagai Project

Pattern of Innovation	Case from Otagai project
New Production / Service	Swimming EV
New Way of Production	Sericulture 2.0 Silk Worm Factory IoT Agriculture
New Market Channel	7 Star Bus into Mekong Land Tour
New Supply Sources of Materials & Parts	Low Protein Rice into Indica Rice
New Organization	Law Firm Network

Reference: Author

It must be moving toward the concept of "cross-border innovation." It is coincidentally an epoch when Otagai Project as the new platform for transinational innovation during the mega flood in 2011. Of course "de-Japanization" and "middle income trap" were also starting at that moment.

Otagai Project was invented in the mid terms of mega flood in October, 2011. At that time, one of the most serious challenges came from how to keep each industrial supply-chain. Serious natural disaster like Thai mega flood, makes their value chain cut down due to their physical damages such as road disconnection and stuck of port operation.

These damages stayed not in local but over the global influence happened from the beginning of mega flood. On the one hand, Honda Auto faced very serious damage in their own factory in Ayuthaya, on the other hand, Toyota did not get any damage directly from mega flood however, some sub-contractors hit by mega flood and then auto parts companies had to stop their production line at that time. In the same sense, Japanese business people could not eat any Yakitori, or Japanese version satay, in the Yakitori bar after business hour in the end of 2011 because the Thai production base of Yakitori was destroyed by mega flood. Japan was one of the top prior export destinations for Yakitori from Thailand, therefore if even in the trouble happened only in Thailand, the whole value chain was stuck in the end.

"Otagai sama" in Japanese, means "helping each other" especially in case of emergency[xvi]. From the beginning, Otagai Project focused upon such business continuity plan (BCP). Big companies can more easily set up dual system for backup production. However how about Small and Medium Enterprises (SMEs)? One of ideas was to coordinate BCP sister clusters between Thailand and Japan. There were some best practices in Japan at that time. For instance, after Chuetsu Earthquake occurred in Niigata in 2006, Tsubame Sanjyo city which is famous for their a cluster of tableware as well as plating and Yokohama, another cluster for plating agreed with

the sister cluster linkage contract which carry the BCP plan relied on the concept of helping each other.

Some readers may wonder such a good story was only in a book but this was a real story. In mega flood situation in Thailand, we could find some typical examples for the potential cross border cooperation at that time. For example, ROAM Semiconductor company hit by serious flood in Ayuthaya at that time not to continue to supply to makers. At that time, they asked RENESAS Electronics, one of the tough competitors of ROAM to replace their supply to makers[xvii].

Therefore This Otagai Project reported to the Thai cabinet to implement it in November 2011 just after the Thai delegation to discuss the flood problem with Japanese government came back from Tokyo. This project endorsed by Secretary General of NESDB in Thai government, Mr. Arkhom Termpittayapaisith in February 2012 and Director-General of Industrial Promotion Bureau, Ministry of Industry of Thailand, Dr. Pasu Loharjin agreed to hand-on it in Ministry of Industry in March 2012.

However this was only the back-up system for supply-chain. We have to wait for one more story behind this backup. After starting the system of this Otagai project networking, the clue of evoking innovation was found. For example, a case of two plating clusters as sister cluster both in Tsubame Sanjyo in Niigata and Yokohama got new complementally cooperation. In plating procedure, normally speaking, companies pour any part just into the special liquid. However Tsubame Sanjyo cluster provides a service after pouring them into the special liquid, they also cut some margin as surplus of product because of their special scrubbing technology or "MIGAKI" and know-how.

In this situation, if some customers want to get perfect surface of the product, they should order to Tsubame Sanjyo cluster. Otherwise some customers are willing to reduce their cost in the plating process, then they should ask it to Yokohama cluster. Such a "division of labor" can contribute toward fitting to each special need in diversity of customers' preference. This also made us aware of the distinction of each cluster's features or strengthens even from the same segment of production.

Through the discovery of collaboration patterns of cluster to cluster, Mr. Passakorn Chairat, director of Japan Desk, Ministry of Industry of Thailand, agreed that the Otagai Project should go beyond Business Continuity Plan (BCP) function and then to start such a complement combination between Thai and Japanese clusters[xviii] in 2013. It was time to start these cross-border innovations caused by the cluster to cluster linkage between Thailand and Japan.

As it has been already argued it, one of the most serious factors against "middle income trap" is to evoke spontaneous innovation from this middle income country, Thailand. Therefore if Thailand finds out a way of new innovation, they will be able to avoid "middle income trap" and then to catch up their original path of economic growth.

Innovation was defined as "new combination" by Joseph A. Schumpeter in the book "Theorie der wir Tschaftlichen Entwicklung[xix]" in the early decades of the previous century. In this definition, innovation was relatively broader concept including not only advanced technology or scientific discovery from Nobel Prize winners but also some new collaboration of existing technologies or know-how and new ways of utilization or sales method[xx]. Therefore this can fit to the cross-border or transnational innovation because these existing technologies or know-how have been already applied and utilized in the developed countries and if these stuff will be introduced into the emerging countries in the SEC, it can be also contributive toward new development in the emerging countries.

Otagai Project has been focusing this new combination through the special methodology of "catalyst of transnational innovation" between the emerging Asia and Japan. From the viewpoint of the advanced countries like Japan, Japan itself also has faced challenging stagnation for creating innovation now. One of the reasons why Japan is being in stuck of economy so far is difficulty of finding room for innovation arena.

Actually Japan itself has completed Japanese system or "Japanization" in Japan. It consists of two strong frameworks: "strict regulations like a rock wall" (GANBAN KISEI) and Strong tie alongside "KEIRETSU" relationship system (KANBAN KEIRETSU) supported by the strong "dominant logic[xxi]" and "vested interest" in Japanese establishment.

If Japanese SMEs want to create new innovation, they would like to escape Japanese system to fly to the emerging Asia as new frontier for innovation. That is the reason why 16 local governments jumped in this project and so many Japanese SMEs are willing to participate in the Otagai Project. After encountering Otagai Project with the "Industrial Missing Link" in the Mekong sub-region which is one of the strong tool which can indicate the lack of industrial segments easily rather than previous conventional approach for "Business Matching" between the region and Japan.

Therefore Otagai or helping each other does not mean just a political protocol or gesture but an actual and serious necessity of alliance between the Mekong sub-region and Japan. This is the complementary innovation between them: local wisdom in the region and advanced technology and know-how from Japan.

The concept and system of "Otagai" has already been disseminated toward ASEAN countries since ASEAN-Japan Economic Ministers Meeting in Naypyidaw in August, 2014. After the meeting, the 15th Meeting of Otagai Forum was held in Mandalay in February 2017. Apart from that, a variety of workshop of Otagai was taken place in Myanmar, Thailand, Cambodia and Vietnam.

Some measures or policy took some mistakes because of this "Product-Out" approach. Therefore, this study emphasizes upon the "Market-In" Approach and innovation creation rather than this. This purpose should create "New Industry" based

upon each existing cluster and its linkages. In this context, Otgai Forum has already examined a variety of trans-national innovation in ASEAN. So if it is possible, this method should be applied toward each industrial cluster in the SEC. In this regards, this study can carry the matching between each industrial cluster and each Otagai Project business platform below:

Table 44. 19 Clusters Local to Local Linkage

Country	Province	Proposed Product Chains	Otagai Cluster Location
Cambodia	Banteay Meanchey	Silk Production	Kyoto
	Battambang	Fresh Water Fish Sauce	TAMA Cluster
	Pursat	Pursat Orange	TAMA Cluster Niigata
	Kampong Chhnang	Pottery & Ceramics	Seto
	Svay Rieng	Rice	Niigata
	Koh Kong	Sea Water Fish Sauce	TAMA Cluster Niigata
	Kampot	Natural Salt	Tokyo
	Preah Sihanouk	Dry Shrimp	Nagasaki
Myanmar	Tanintharyi (Dawei)	Mackerel (Pla Tuu)	Nagasaki
Thailand	Chantaburi	Durian processing	TAMA Cluster Niigata
	Kanchanaburi	Banana processing	TAMA Cluster Niigata
	Prachinburi	Organic Rice	Niigata
	Ratchaburi	Aromatic Coconut Production and Processing	TAMA Cluster
	Sakeo	Aromatic Herb	TAMA Cluster
	Trat	Community-based Tourism	Himeji
Viet Nam	Ca Mau	Dried Snakeskin Gourami (Pectoralis)	Nagasaki
	Can Tho	Catfish	Nagasaki
	Kien Giang	White (leg) shrimp	Nagasaki
	Tay Ninh	Custard Apple	Niigata

Reference: Author

After following scheme of each cluster and its feature above, it should be explored to find some possibility of the Local-to-Local Cooperation between each cluster in the SEC and Otagai Forum Member clusters. It can bring more tangible outcome after more detailed discussion and researches in line with the conclusion of this paper. From the Otagai Forum Member, matching partners between the SEC and Otagai Forum are found in 8 typical clusters in Japan, which can be elaborated with each specific function below.

Table 45. Classification of each Functional Cluster

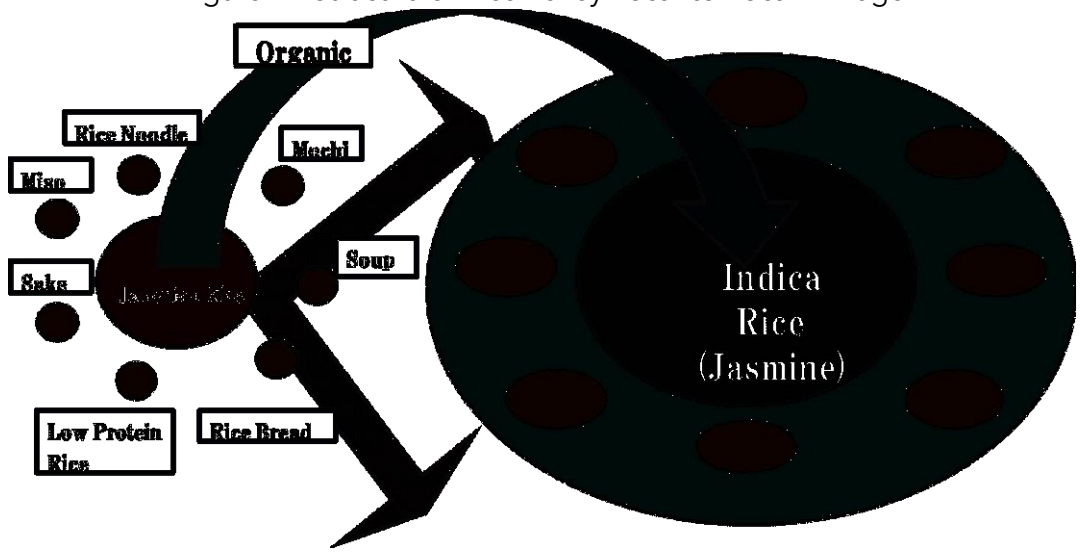
	Rice Valley	Maritime Conclave	Aqua Cluster	Lactic Acid Flora	Moving Cluster	Sericulture 2.0	Food-Processing Machine Network	Ceramic Alliance
Cluster Area	Niigata	Nagasaki	TAMA	TAMA	Himeji	Kyoto	Tokyo	Seto
Driving Company	Horica	NBT	Industria	Sophia	Shinki	Shiko	Tok]Engineering	Seto Association
Advantage	Functional Rice Product	Fishery Tech.	Water purification	Enhancing Cultivation	5 star bus trip	Silk new value chain	Inspection For food Safety	Design & Function

Reference: Author

Case 1: Rice Valley (Svay Rieng / Camobdia, Tay Ninh / Vietnam, Prechanburi / Thailand, Chantaburi / Thailand, Kanchanaburi / Thailand)

Rice is a typical staple in Asian countries and therefore its viable commercial level development depends upon the trend of the market for the one side, rice is, on the other side, facing the difficulty of its increasing the value-addition higher and higher. In these backgrounds behind the feature of the rice cluster, Rice Valley in Niigata, the northern part of Japan, has already overcome these problems and then to become one of the most attractive clusters in Japan. If the cluster of rice industry can join to make cluster linkage between Svay Rieng in Cambodia and Rice Valley in Niigata, Japan, it must be a typical example of cluster linkages to enhance the competitiveness of Savy Rieng Cluster.

Figure 72 Strucure of Rice Valley Local-to-Local Linkage



Reference: Author

Rice Vally in Niigata is a typical cluster as for developing agricluture related industries around the specific region. Although Niigata is located in the norhern part of Japan with having heavy snow in every winter season, they can enhance the rice cluster around it. They have already invented a variety of technologies and know-how related to rice bu only a special specie, so-called "Japonica" in Japan.

It is very simple innovation that they can apply their technology from Japonica Specie to Indica Specie in order to add more value than normal rice in this region. Low protein rice is one example which can contribute to maintaining heath for people who suffers life-style related diseases such as diabetes and kidney problem through reducing absorbing protein from rice. These type of health functional food can bring more value-addition and easy to be applied to the conventional procedure of rice production in the mill companies or rice association in this area. After our visiting Svay Rien in Cambodia, we can get new perspective on functional rice in the belt of rice harvest. This socioeconomic impact can be counted for changing the SEC toward innovation of life-science with local and traditional agriculture society.

Table 46. Institutional Void for Rice Valley Cluster Linkage in the SEC

Institutional Void	VOID	Solution as Innovation
credibility Enhancer	Standranzation	Functional Rice Academic Association
Information Analyzers & Advisers	Market Information	Suvery for marketing inside the SEC
Aggregators & Distributors	Logistics Service with Quality Control	Assuring of Quality
Transaction Facilitators	Networking Rice Mill or Rice Accosiation in the SEC	Functional Rice Academic Association
Regulators & Other Public Entity	ASEAN Common Standard for FDA	Reformation of FDA rules
Adjudicators	NA	NA

Reference: Author

Table 47. Potential Procedure of Innovation (Otagai Method) applied to the cluster

	The SEC	Cluster in Japan
Step 1 Finding Challenges	-Upgrading rice production for increasing income of farmers -Stuck in the Distribution System -Enhancing quality of life againste life-style disease	-Lack of Market against public sector -Trade limitation -Demografic Problem

Step 2 Arranging Tech. & Know-how		-Functional Rice Production Method -Technocal Transfer from Japonica to Indica -Centralized Distribution System for Functional Rice -Hospital and Care house Management
Step 3 Creating New B-Model	- -Targeting Hospital and Care house -Special Economic Facility focus on life-science	

Reference: Author

Case 2: Maritime Conclave (Preah Sihanouk / Cambodia, Tanintharyi (Dawei) / Myanmar, Ca Mau / Vietnam, Can Tho / Vietnam)

For fisher clusters including Preah Sihanouk in Cambodia, Tanintharyi or Dawei in Myanmar, Ca Mau and Can Tho in Vietnam, Nagasaki fishery cluster can support them for their own clustering, when they wish to develop their own resources from maritime as well as river or lake water.

Nagasaki has a maritime cluster including ship-related and fishery industries as one of the largest clusters in Japan and Nagasaki university is conducting their own technologies as well as some know-hows from Nagasaki to Kenya in Africa in order to renovate its fishery industry near Victorian Lake. This cluster focuses on the food-processing after getting sea resources to be reserved. This technology including source production can provide some hints for developing each cluster above. This is also a typical example for Biz-Aca Cooperation on overseas with public support from Japanese Government. Therefore this way of cooperation between Nagasaki and some clusters in the SEC should be considered for implementation as cluster linkage development.

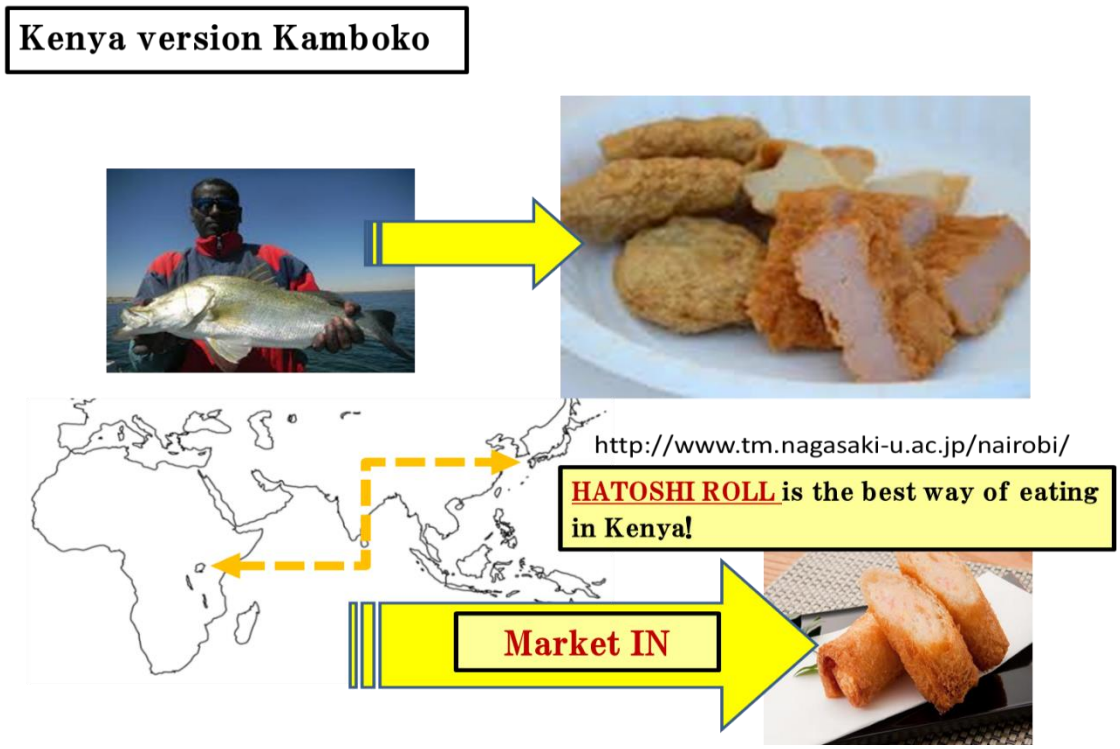


Figure 73. Kamboko Project in Kenya
Reference: CICORN / Nagasaki University Report

Table 48. Institutional Void for Maritime Conclave Cluster Linkage in the SEC

Institutional Void	VOID	Solution as Innovation
credibility Enhancer	-Quality Assurance for food items	Garanteee system for products
Information Analyzers & Advisers	Potential Resources related to River and Ocean	Suvery for developing these resources in the SEC
Aggregators & Distributors	Logistics with maintenance of products such as "Cold Chain"	Appicalbe Cold Chain System
Transaction Facilitators	Networking fisherman Assocation in the SEC	Establishment of Network of fisherman associatoin
Regulators & Other Public Entity	ASEAN Common Standard for FDA	Reformation of FDA rules
Adjudicators	Fisherman Rights Grantee	Fisherman Rights Grantee System This can be introducef from Japan

Reference: Author

Table 49. Potential Procedure of Innovation (Otagai Method) applied to the cluster

	The SEC	Cluster in Japan
Step 1 Finding Challenges	-Enhancing productivity in each fishery stuff -Lack of Cold Chain System -Lack of Expanding expired date as for longer staying in the global market	-death-stock of fishery related technology in Japan
Step 2 Arranging Tech. & Know-how		-Cold-chain Technology -Food Processing Skills especially for preservation packaging
Step 3 Creating New B-Model	Jointly Distribution Firms for new technology of Cold Chain and the other skills of fishery items and platform of maritine industrial resource development	

Reference: Author

Case 3: Aqua Cluster (Battambang / Cambodia, Koh Kong / Cambodia, Kampot / Cambodia)

It can bring a good solution for all clusters but especially for Koh Kong in Cambodia.

Figure 74 *Aqua-Cluster with FIlSTAR Project Reference: Author*

FILSTAR which is invented in Industria Company can "instantly" purify liquids of solid contamination. It is the most low-cost technology and the most compact equipment in the world. Even though this is just a supporting tool but it can contribute to letting the cluster more efficient and more sustainable in the lifeline of water supply system.

So many water treatment system appears in the world, especially from Japan. However almost all technology is relatively costly. So it does not seem to be sustainable development for water purification system in the SEC without FILSTAR. Only FILSTER can

	survive more than thirty years without any maintenance and changing filters as running cost. That sounds amazing for economic behefit.

Table 50. Institutional Void for Aqua Cluster Linkage in the SEC

Institutional Void	VOID	Solution as Innovation
credibility Enhancer	Grantee of the purification of water	Visualizing the effectiveness of it
Information Analyzers & Advisers	Information of void areas	Diagnots of each industrial procedure as for finding some targeting areas
Aggregators & Distributors		
Transaction Facilitators	Adaptation to the existing production base such as factory and plant	Guideline for the adaptation or rennovation of each factory and plant
Regulators & Other Public Entity	Water purification Standard	Reformation of water supply rules
Adjudicators		

Reference: Author

Table 51. Potential Procedure of Innovation (Otagai Method) applied to the cluster

	The SEC	Cluster in Japan
Step 1 Finding Challenges	-Sanitary system -Cost Effectiveness	
Step 2 Arranging Tech. & Know-how		-Acua value-chain which can solve any challenges and problems after the big chain
Step 3 Creating New B-Model	New production can be jointly manufactured because the cluster of industria wish to ask some local partners directly to develop each custamized productons	

Reference: Author

Case 4: Lactic Acid Flora (Pursat / Cambodia, Chantaburi / Thailand, Kanchanaburi / Thailand, Ratchaburi / Thailand, Sakeao / Thailand)

Sophia is a Bio and life-health company which belongs to TAMA cluster can provide new bio-tech for promoting the potential of green stuff to increase its productivity. This mechanism is very simple to develop the function of green leaf to activate its function. They have already applied this technology not only in Japan, but also in Korea. This must be a good solution to change the harvest for each fruit cluster in the SEC.

11

Figure 75. Miracle Lactic Acid from Soy Bean
Reference: Sophia Company

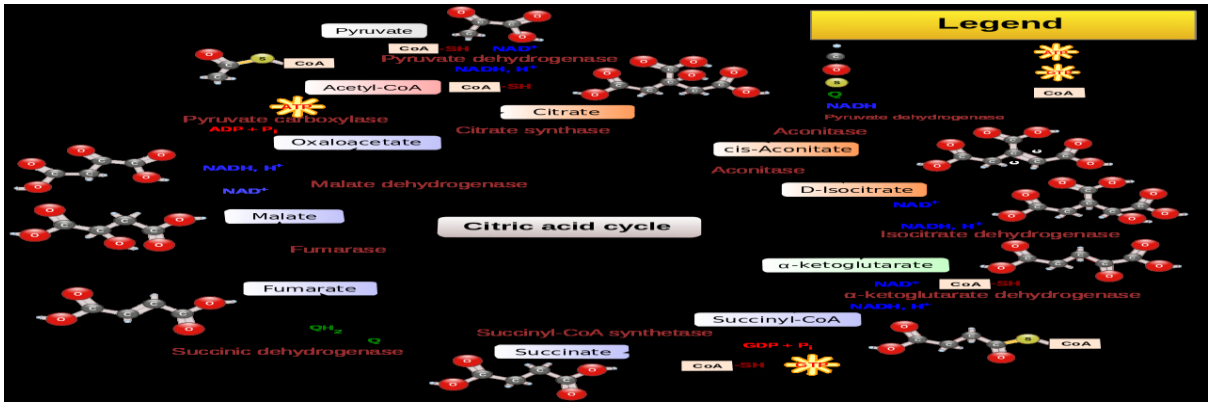


Figure 76. Mechanism of Lactic Acid
Reference: Sophia Company

Table 52. Institutional Void for Lactic Acid Flora Cluster Linkage in the SEC

Institutional Void	VOID	Solution as Innovation
credibility Enhancer	Credit system for way of farming	Issuing the way of this new farming
Information Analyzers & Advisers	Potential ground data	Data base development inside the University
Aggregators &		

Distributors		
Transaction Facilitators	Awareness of the good production	Workshop in the SEC powered by MI
Regulators & Other Public Entity	Procedure of permission	Reformation of Permission
Adjudicators		

Reference: Author

Table 53. Potential Procedure of Innovation (Otagai Method) applied to the cluster

	The SEC	Cluster in Japan
Step 1 Finding Challenges	-Upgrading Farm cultivation Skill -Enhancing productivity in each agriculture stuff -Chemical free and organic type of cultivation -Expanding expired date as for longer staying in the global market	-death-stock of fishery related technology in Japan
Step 2 Arranging Tech. & Know-how		-Mixtures of Agricutural Theory and Farmers Experiences - Preservation Packaging Technology -Making fruiets more fertile
Step 3 Creating New B-Model	Cooperative Association for distribution of new way of agriculture with licence system is one of the candidates for joint cooperation. Before implementation, it is also required for some workshop or seminar with local enterprises.	

Reference: Author

Case 5: Moving Cluster (Trat / Thailand)

For Trat tourism cluster, SHINKI bus can provide a new concept of seven star bus into the SEC. That can change the road condition not from road development but from facility of luxury bus into the SEC.

Seven star bus can absorb some serious vibration from the bad condition road. This sounds great when it comes to the weather consumer who will change their mind from flight trip to bus tour in the market. This is the core of the solution from the problem in Trat tourism depends on the costly commutation from Bangkok to Trat by air.

Figure 77. Seven Star Bus from SHINKI Bus
Reference: SHINKI Bus

Table 54. Institutional Void for Moving Cluster Linkage in the SEC

Institutional Void	VOID	Solution as Innovation
credibility Enhancer	Proof of Safety and Comfatability in Five Star Bus	New Standard for long-distance bus Commutation System
Information Analyzers & Advisers	Comparision between Flight and Bus	Marketing with each module of commutation and desiminating information of Five Star Bus
Aggregators & Distributors	Five Star Bus Import or Manufacturing in Thailand	Feasibility of components procurement
Transaction Facilitators	Ticket Distribution System	Collaboration with retail and e-commerce through SNS (LINE)
Regulators & Other Public Entity	Licence of Bus (SHINK has already had a operation licence for tourism)	Joint Venture for Trat Tourism
Adjudicators		

Reference: Author

Table 55. Potential Procedure of Innovation (Otagai Method) applied to the cluster

	The SEC	Cluster in Japan
Step 1 Finding Challenges	-Poor and lack of land operatating service for commutation between Trat and BKK	

	-Safety and Comfortability are the first priority	
Step 2 Arranging Tech & Know-how		- Five Star Bus - Know-how of opperatrion of Laxuary Bus
Step 3 Creating New B-Model	Transering tech. and know-how or joint venture with Trat Tourism Company	

Reference: Author

Case6: Sericulture 2.0 (Banteay Meanchey)

This is dedicated for Banty Meanty Cluster in Cambodia.

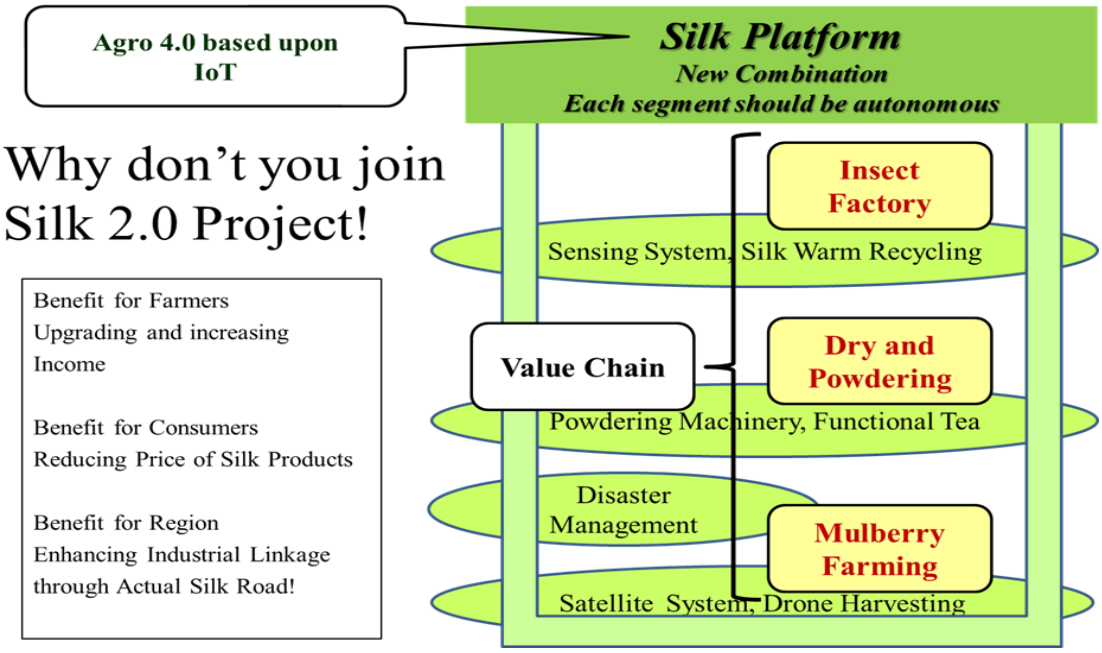


Figure 78. Sericulture 2.0
Reference: Author

This concept makes Mekong sub-region more introduction of IoT (Internet of Things) and to let it more hub for the total solution of sericulture with a variety of by-products such as mulberry leaf tea and new functional food from protein of silk worm.

Unfortunately sericulture 1.0 or current type of silk industry still remains in the traditional world. It means there is no room for introducing new technology especially precision agriculture. Fortunately Cluster people in Banty Meanty have a will to develop their sericulture even with some obstacles behind that. So it should be discussed more details about the materialization of the sericulture 2.0.

Table 56. Institutional Void for Sericulture 2.0 Cluster Linkage in the SEC

Institutional Void	VOID	Solution as Innovation
credibility Enhancer	Mass production feasibility	Ensuring mass production from mullbery farming to silk with arrodable price
Information Analyzers & Advisers	Mind setting for sericulture ecosystem	Speakout seminar for the stakeholders
Aggregators & Distributors		
Transaction Facilitators	Large Farm System	IOT Agriculture
Regulators & Other Public Entity		
Adjudicators	Arbitration between Sericulture 1.0 and 2.0	Freedom from Sericulture 1.0 or traditional way of sericulture protected by Government with subsidy system

Reference: Author

Table 57. Potential Procedure of Innovation (Otagai Method) applied to the cluster

	The SEC	Cluster in Japan
Step 1 Finding Challenges	-Low Productivity -The obstacles of access to the Global market	
Step 2 Arranging Tech. & Know-how		-IOT Agriculture -Marketing Method for silk and by-products
Step 3 Creating New B-Model	PPP (Public-Private-Partnership) Cooperatoin entity for distribution of know-how and technology for sericulture 2.0	

Reference: Author

Case 7: Food Processing Machine Network (Kampot / Cambodia)

Kampot is the cluster of salt industry with the long history. Although natural salt sounds great opportunity in the global market, this field is very competitive and it is necessary to ensure the quality control which detects any materials.

In the observation, Kampot cluster should meet a food-processing machine cluster particularly inspection system or detecting impurities and so on. If this can fit to global consumers' level of safety, special salt from Kampot will be disseminated to all over the world.

Figure 79. Detecting Disparities Machine from Food-Processing Machine Network
Reference: Tok Engineering Co., Ltd.

Table 58. Institutional Void for Food-Processing Machine Network Cluster Linkage in the SEC

Institutional Void	VOID	Solution as Innovation
credibility Enhancer	Lack of safety and qualified garantee	Guarantee Standard with Global network and Salt Production Summit between the SEC and Japan
Information Analyzers & Advisers	Branding for differenciation with the other salt production	Targeting big market such as Japan
Aggregators & Distributors	Lack of packing system	Packing system with presearvation or good attraction to global customers
Transaction Facilitators	Vertical Value chain buidling	Introduction of the Best Practices in Japan
Regulators & Other Public Entity	Standarization of qulity guarantee	Quality Gurantee in line with the global standard
Adjudicators		

Reference: Author

Table 59. Potential Procedure of Innovation (Otagai Method) applied to the cluster

	The SEC	Cluster in Japan
Step 1 Finding Challenges	-Quality control system with guarantee	
Step 2 Arranging Tech. & Know-how		-Machine for detecting impuritties with Affordable price Bus
Step 3 Creating New B-Model	Jointly R&D to produce new system for detecting system for salt in Kampot	

Reference: Author

Case 8: Ceramic Alliance (Kampong Chhnang / Cambodia)

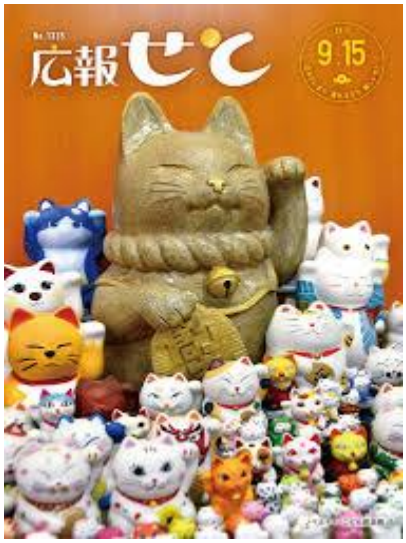


Figure 80. Maneki Neko or Welcoming Cats from Seto Ceramic Alliance
Reference: Seto City

Ceramic items are usually inclined to become more and more common or commodity in the world. Therefore it should be diversified against becoming commodity. Seto is the oldest cluster for ceramic in Japan and is creating new culture trend year by year. For instance, "Maneki Neko" or welcoming cat is regarded as good fortune for business when it is time for new shop to open and Seto creates new trend to concentrate on the production on these items. So far Seto is also seeking some partners overseas for creating new partners in future.

Table 60. Institutional Void for Ceramic Alliance Cluster Linkage in the SEC

Institutional Void	VOID	Solution as Innovation
credibility Enhancer	Estimating quality of ceramic product	Quality guarantee system of ceramic
Information Analyzers & Advisers	Desigin Marketing	Creating new trend of ceramic
Aggregators	Damage of the ceramic	Logistics Service for Specific

& Distributors	transporation	ceramic
Transaction Facilitators	Lack of concept of ceramic	Full set for living concept in the global market
Regulators & Other Public Entity		
Adjudicators		

Reference: Author

Table 61. Potential Procedure of Innovation (Otagai Method) applied to the cluster

	The SEC	Cluster in Japan
Step 1 Finding Challenges	-Incline to be commodity -Access to global market	
Step 2 Arranging Tech. & Know-how		-know-how to diversity of product as high-valued items -cooperation with Japanese desigin
Step 3 Creating New B-Model	Skill development cooperation after a specific workshop in the cluster	

Reference: Author

In addition to these cluster linkage between the SEC and Japan above, it should be considered internal relationship as a platform to share a variety of best practice and corridor advantage alongside the SEC. This is the Roadside Station. In terms of Roadside Station, we have already discussed it in the Chapter 8-3-1 of this paper. So there is no mentioned it again in this paper (See Chapter 8-3-1).

It is also kept in mind that not only for B to B cluster linkage but also C to C (Cluster to Consumer) directly will become a new trend in the world based upon IOT and fintech facilities. Therefore the "SEC GO" below is quite significant concept in future.

SEC GO!

Final proposal for clustering with solution against bottlenecks in the SEC is to set up a platform, so-called "SEC GO!" This consists of three prominent characteristics: Prompt reporting and updating Information; Any application related to IoT (Internet of Things) stuffs in the SEC; Ownership both from producer and customer.

First of all, SEC Investment Index (SECII) is the main issues behind each cluster in the SEC which can visualize the potentials of each cluster and what kind of features of each cluster.

However it is also kept in mind that this is not just Data Base but an "Investment Analyst Report" from Investment Bank. This is circulated every month or every two or three month for their seeking promptness of reporting each cluster. Otherwise information must be decay in a couple of month or even in a couple of weeks.

On the next step, this system can be introduced any type of IoT technologies into this system. It means that fin-tech such as crowd funding, or x-tech can be installed into the system of SEC.

Finally it can establish the bridge function platform not only cluster to cluster but also producer to consumer. In this way, consumer can connect directly to the producer to modify their commodity based upon their own taste and idea. This type of B to C style can also be supported by people in cluster in order to expand their own market as well as increasing any opportunity of innovation based on new combination between old system and new network.

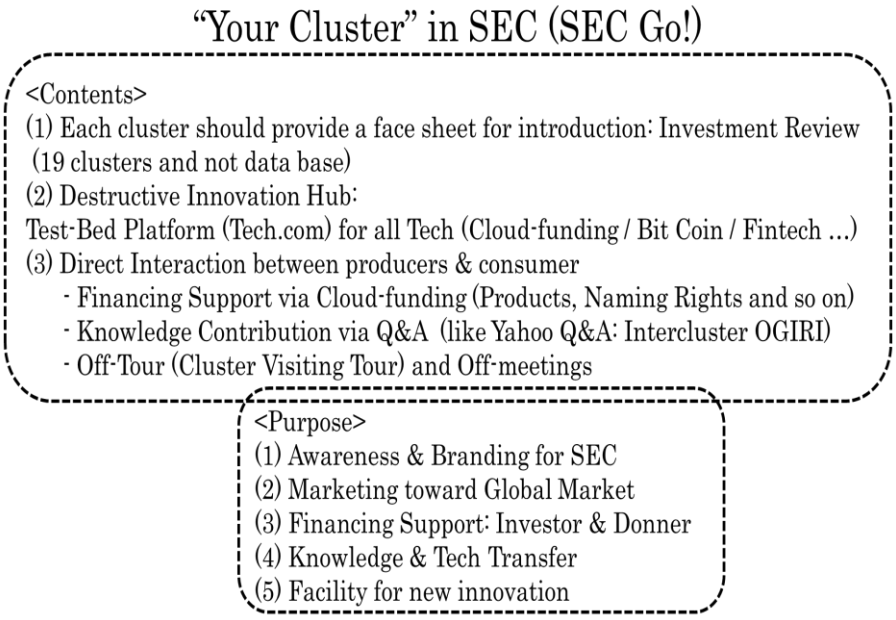


Figure 81. SEC Go!
Reference: Author

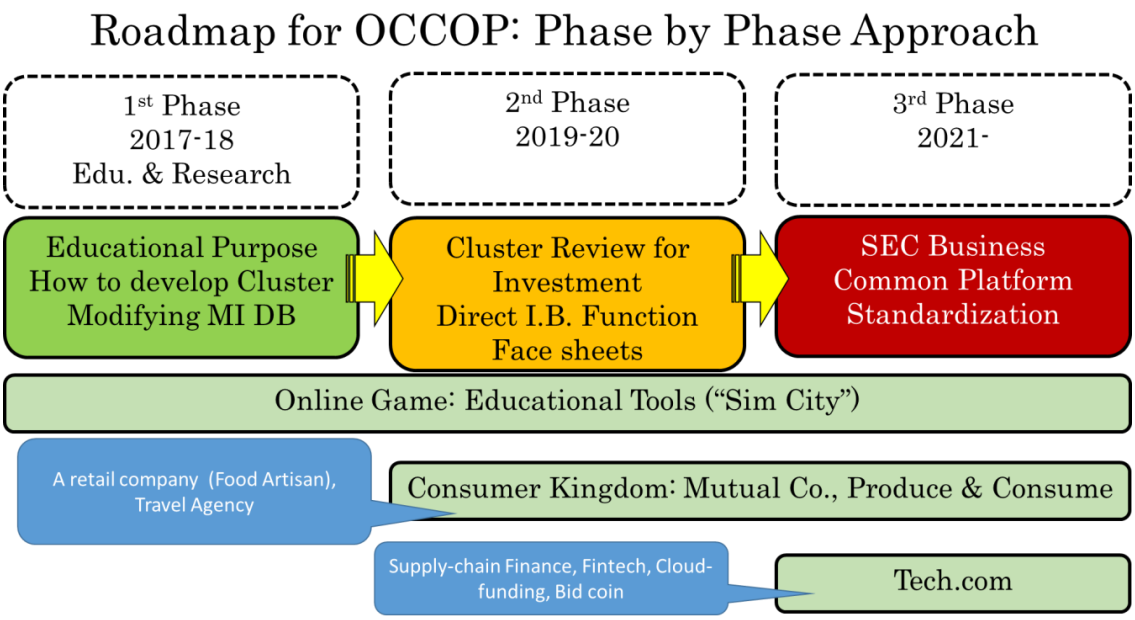


Figure 82. Roadmap for building up the OCCOP
Reference: Author

Conclusion

In sum up, this paper concludes to provide 5 feasible and effective policies as Policy Recommendation. As it is expressed that we try to set up recommendations which stimulate private sector to facilitate new innovation in the SEC. Therefore though these policy recommendations below, it can contribute toward solving bottlenecks of value-chain in the SEC with each cluster's prosperity.

Table 62. Policy Recommendation Structure

Policy Recommendation Policy Measures	
1. BDS Standard SINDAN	Cluster Capacity Development
2. Biz-Aca Standard Nagasaki Breakthrough	Cluster Capacity Development
3. Local to Local Approach Otagai Forum	Cluster to Cluster
4. Mezzanine Infrastructure Roadside Station	Cluster to Corridor
5. SECGO	Corridor as a whole

Table 64. "Institutional Void" Overcome by the BDS function of the Policy

		Public	PPP (in between)	Private
Credibility Enhancer	Third Party certification of the claims by suppliers or customers	Certification	Supply-chain Finance	
Information Analyzers & Advisers	Collection and Analyze information on producers & consumers in a given market	Data Provision	SEC GO!	
Aggregators & Distributors	provide low-cost matching and oher value-added services for suppliers & comsumers through experties & economics of scales	Roadside Station		
Transaction Facillitators	Provide a platform for exchanging information, goods and services provide support functions for consummating transaction	Otagai Forum (Private Contract Architecture)		
Regulators & Other Public Entity	Create and enforce the appropriate regulatory and policy framework			
Adjudicators	Resolve disputes regarding law and private contract			

Reference: Author create a new diagram from the Tarun K. and Krishna G. P. (2010), p81

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Annex 1. Schedule of Inception Workshop

Province	Date and time	Activity	Member
Tanintharyi / Dawei	March 14, 2017 (Tuesday) 05:00 – 15:00	Travel by land Bangkok – Dawei	Mr. Daisuke Matsushima Mr. Yasuo Kannami Mr. Kotaro Kubo
	March 14, 2017 (Tuesday) 16:00 – 18:00	Meeting / Workshop @ Dawei	Mr. Daisuke Matsushima Mr. Yasuo Kannami Mr. Kotaro Kubo
Kanchanaburi	March 15, 2017 (Wednesday) 05:00 – 14:00	Travel by land Dawei – Kanchanaburi	Mr. Daisuke Matsushima Mr. Yasuo Kannami Mr. Kotaro Kubo
	March 15, 2017 (Wednesday) 15:00 – 17:00	Meeting / Workshop @ Kanchanaburi	Mr. Daisuke Matsushima Mr. Yasuo Kannami Mr. Kotaro Kubo
Sa-Kaeo	March 16, 2017 (Thursday) 06:00 – 12:00	Travel by land Kanchanaburi – Sa-Kaeo	Mr. Daisuke Matsushima Mr. Kotaro Kubo
	March 16, 2017 (Thursday) 13:00 – 15:00	Meeting / Workshop @ Sa-Kaeo	Mr. Daisuke Matsushima Mr. Kotaro Kubo
Banteay Meanchey	March 16, 2017 (Thursday) 16:00 – 18:00	Travel by land Sa-Kaeo – Banteay Meanchey	Mr. Daisuke Matsushima Mr. Kotaro Kubo
	March 17, 2017 (Friday) 9:00 – 11:00	Meeting / Workshop @ Banteay Meanchey	Mr. Daisuke Matsushima Mr. Kotaro Kubo
	March 17, 2017 (Friday) 13:00 – 18:00	Travel by land Banteay Meanchey –	Mr. Daisuke Matsushima Mr. Kotaro Kubo

		Phnom Penh	
Svay Rieng	March 18, 2017 (Saturday) 7:00 – 9:00	Travel by land Phnom Penh – Svay Rieng	Mr. Daisuke Matsushima Mr. Kotaro Kubo
	March18, 2017 (Saturday) 10:00 – 12:00	Meeting / Workshop @ Svay Rieng	Mr. Daisuke Matsushima Mr. Kotaro Kubo
	March 18, 2017 (Saturday) 13.00 – 16:00	Site visit to border check point	Mr. Daisuke Matsushima Mr. Kotaro Kubo
	March 19, 2017 (Sunday) 10:00 – 12:00	Travel by land Svay Rieng – Phnom Penh	Mr. Daisuke Matsushima Mr. Kotaro Kubo
Kampot	March 19, 2017 (Sunday) 13:00 – 18:00	Travel by land Phnom Penh – Kampot	Mr. Daisuke Matsushima Mr. Kotaro Kubo
	March 20, 2017 (Monday) 9:00 – 11:00	Meeting / Workshop @ Kampot	Mr. Daisuke Matsushima
Koh Kong	March 20, 2017 (Monday) 11:00 – 18:00	Travel by land Kampot – Koh Kong	Mr. Daisuke Matsushima
	March 21, 2017 (Tuesday) 8:30 – 10:00	Meeting / Workshop @ Koh Kong	Mr. Daisuke Matsushima
Trat	March 21, 2017 (Tuesday) 10:00 – 14:00	Traval by land Koh Kong – Trat	Mr. Daisuke Matsushima
	March 21, 2017 (Tuesday) 15:00 – 17:00	Meeting / Workshop @ Trat	Mr. Daisuke Matsushima
	March 21, 2017 (Tuesday) 17:00 – 20:00	Travel by land Trat – Bangkok	Mr. Daisuke Matsushima
Tay Ninh	March 22, 2017 (Wednesday) 7:00 – 9:00	Travel by Air Bangkok – Ho Chi Minh	Mr. Daisuke Matsushima
	March 22, 2017 (Wednesday) 10:00 – 12:00	Travel by land Ho Chi Minh – Tay Ninh	Mr. Daisuke Matsushima
	March 22, 2017 (Wednesday) 13:00 – 15:00	Meeting / Workshop @ Tay Ninh	Mr. Daisuke Matsushima
	March 22, 2017 (Wednesday)	Travel by land Tay Ninh – Ho Chi	Mr. Daisuke Matsushima

	16:00 – 18:00	Minh	
Kan Tho	March 24, 2017 (Friday) 7:00 – 10:00	Travel by land Ho Chi Minh –Can Tho	Mr. Daisuke Matsushima
	March 24, 2017 (Friday) 10:00 – 11:00	Meeting / Workshop @ Can Tho VCCI	Mr. Daisuke Matsushima
	March 24, 2017 (Friday) 11:30 – 14:00	Travel by land Meeting / Workshop @ Can Tho University	Mr. Daisuke Matsushima
	March 24, 2017 (Friday)	Travel by land Can Tho University - Ho Chi Minh	Mr. Daisuke Matsushima

Annex 2. List of Participants to the Inception Workshop

#	Name	Organization / Company
Banteay Meanchey		
1	Mr. Thong Thyna	Department of Commerce
2	Mr. Dom Vanndy	Department of Commerce
3	Mr. Iem Sengly	Department of Commerce
4	Mr. Ly Hang	Department of Commerce
5	Ms. Heng Vita	Department of Industry and Handicraft
6	Mr. Sokh Sina	Department of Industry and Handicraft
7	Mr. Koeung Sokkheng	Department of Industry and Handicraft, Battambang Province
8	Ms. Phan Vantha	Department of Commerce, Battambang Province
9	Ms. Eng Samphors	Chamber of Commerce, Battambang Province
10	Ms. Morn Saroeuth	Silk Cluster
Kampot		
11	Mr. Koeng Sonthean	Department of Industry and Handicraft
12	Mr. Hiean Ngon	Department of Agriculture
13	Mr. Ly Kumhak	Department of Commerce
14	Ms. Thong Thida	Salt Cluster

15	Mr. Om Chhun	Salt Cluster
16	Mr. Thon Chandara	ACLEDA Bank
17	Mr. Sang Source	Department of Industry and Handicraft
18	Mr. Vong Phala	Fasmec (SHV)
19	Mr. Chin Samnang	Cluster from Preah Sihanouk Province
20	Mr. Duong Sovann	Department of Commerce
21	Ms. Sokha Mardy	FASMEC Sihanoukville Branch
22	Mr. CHHON Chhang	Chamber of Commerce - Kep, Kampot & Takeo Zone
23	Mr. Vann Sokheng	FASMEC Sihanoukville Branch
Koh Kong		
24	Mr. Iean Savan	Department of Industry and Handicraft
25	Mr. Salim Farit	Department of Commerce
26	Mr. Ly Rithy	Department of Commerce
27	Mr. Oum Sidoeun	Department of Industry and Handicraft
28	Mr. Sieng Veasna	Department of Industry and Handicraft
29	Mr. Cheu Liheang	Fish Sauce Cluster
30	Mr. Pen Chansavoeun	ACLEDA Bank
31	Mr. Pal Kep	Canadia Bank
32	Ms. Nong Tino	Special Economic Zone
33	Ms. Prom Sida	Special Economic Zone
34	Mr. Kaov Kimya	Koh Kong Chamber of Commerce
35	Mr. Pen Sokha	Koh Kong Chamber of Commerce
36	Mr. Hor Sinourn	Department of Industry and Handicraft
Svay Rieng		
37	Mr. Meak Chavannarun	Department of Commerce
38	Mr. Long Sokhom	Department of Industry and Handicraft
39	Mr. Noun Lada	Svay Rieng University
40	Mr. Sok Lysot	Credit Officer
41	Mr. Chea Sopheara	Finance and Admin Officer
42	Mr. Sam Sithay	Chamber of Commerce

43	Mr. Koy Chantha	Department of Commerce
44	Mr. Nal Vichet	CamControl
45	Mr. Lu Botum	Canadia Bank
46	Mr. Im Mesa	Department of Industry and Handicraft
Tanintharyi Region / Dawei		
47	Mr. Aung Thet Oo	Tanintharyi Directorate of Industrial Supervision and Inspection
48	Mr. Soe Myint Thein	Dewei District Fishery Department
49	Mr. Htein Win	Dewei Small and Medium Enterprises Association
50	Mr. Bo Bo Aung	Dewei Fishery Producer Association
51	Mr. Win Tun	Department of Consumer Affair
52	Ms. Yin Thwe Win	Tanintharyi Directorate of Industrial Supervision and Inspection
53	Ms. War War Thant	Tanintharyi Directorate of Industrial Supervision and Inspection
54	Mr. Min Aung	Tanintharyi Directorate of Industrial Supervision and Inspection
55	Mr. Soe Nge	Tanintharyi Directorate of Industrial Supervision and Inspection
56	Ms. Yin Yin Aye	Tanintharyi Directorate of Industrial Supervision and Inspection
57	Mr. Kyaw Thet Hlaing	Main Street, Dewei
58	Mr. Tun Min	321/Sadanar Street, Dewei
59	Mr. Hla Htin	
60	Mr. Soe Soe Than	No/165, New Building Street
61	Mr. Win Soe	
62	Mr. Soe Thein	654/ Yae Street
63	Mr. Myo Hlaing	322 (B), General Street
64	Mr. Phyo Mg Mg	73, Bayan Tree Street
65	Mr. Win Khaing	Regional CCI
66	Mr. Kyaw Kyaw Oo	Regional CCI
67	Mr. Myo Thant	Maung Ma Kan
68	Mr. Hla	Maung Ma Kan
69	Ms. Yuzana Wai Wai	Dewei
70	Mr. Hein Thet Oo	Dewin
71	Mr. Min Yu Pa	Dewei

72	Mr. Soe Win Hlaing	Dewei
73	Mr. Ye Htut Lin	Dewin
74	Ms. Than Than Nwet	Dewei
75	Mr. Htein Win	Dewei
76	Ms. Khin Nyo Nyo	Regional CCI
77	Mr. Nyi Nyi Lin	Regional CCI
78	Mr. Phyo Mg Mg	Regional CCI
Kanchanaburi		
82	Ms. Rungkarn Changkun	Siam Banana Co.,Ltd
83	Mr. Htein Wein	Dawei SME Association
84	Mr. Paiboon Jiratanun	Kanchanaburi Provincial Cooperative Promotion Office
85	Ms. Yupin Kwangprai	Kanchanaburi Provincial Industry Office
86	Mr. Chalermchat Chun-in	Federation of Thai Industries (FTI) Kanchanaburi
87	Mr. Phairot Matthayom	SME Bank
88	Ms. Sawika Prasertphol	Residence Hotel
89	Mr. Chaokiat Rotpurijinda	
90	Mr. Teerachai Chutimant	Chamber of commerce
Sa-Kaeo		
91	Mr. Pupradit Seehajan	BAAC
92	Mr. Pramuan Khyokham	Chamber of Commerce
93	Ms. Aoytip Jumjod	Sa-kaeo Herb Cluster
94	Ms. Napatsorn Padungcharoen	Sa-kaeo Herb Cluster
95	Mrs. Prapaipun Pranee	College
96	Mr. Somyot Sintupan	News Reporter
97	Mrs. Nattaya Deejong	
98	Mrs. Jantipa Yangyuen	Sa-kaeo Provincial Commercial Affairs Office
99	Ms. Siwara Lertsakultham	Sa-Kaeo Provincial Industry Office
Trat		
100	Nijtawat Pakdeepasit	Trat Provincial Commercial Affairs Office
Tay Ninh		
101	Mr. Le Ngoc Thach	Trade Promotion Center
102	Mr. Le Khanh Trinh	Trade Promotion Center
103	Ms. Pham Thi Bich Van	Business Association of Tay Ninh

104	Mr. Ha Chi Mang	Agriculture Cooperative Thanh Tan Custard Apple

Annex 3. Questionnaire Distributed at the Inception Workshop

Chart 1 Who are You?
Name: Affiliation

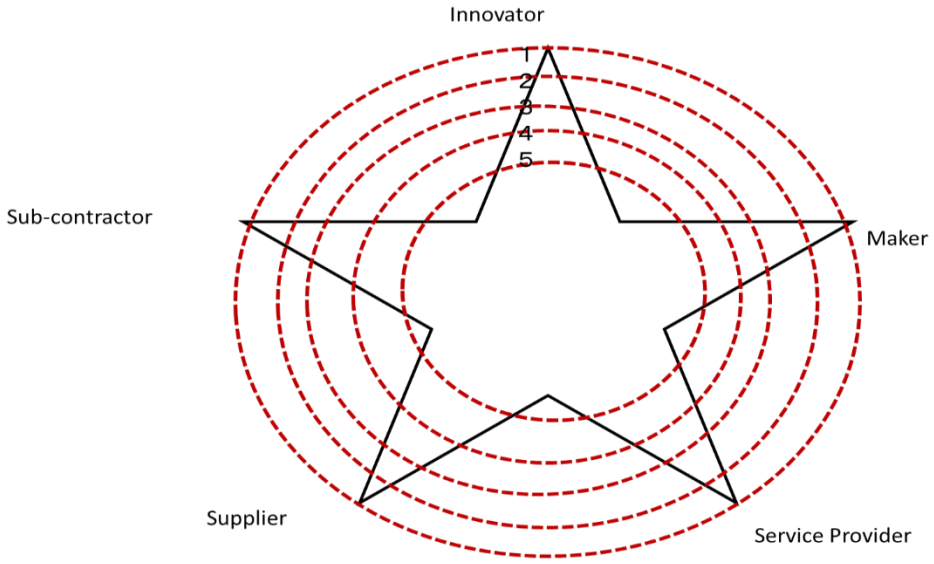

Chart2 Where is your (your client) location
Name: Affiliation

	Local	Global
Production		
Market		

Chart 3 Which Direction is Your Business? Present & Future
Name: Affiliation

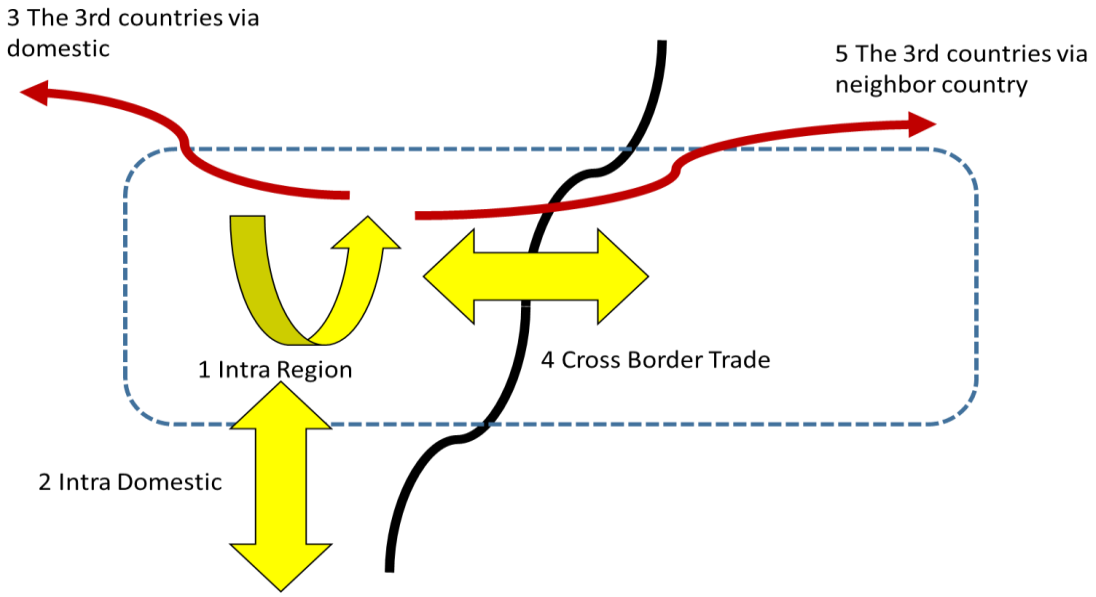

Chart 4 Most Contribution from whom
Name: Affiliation

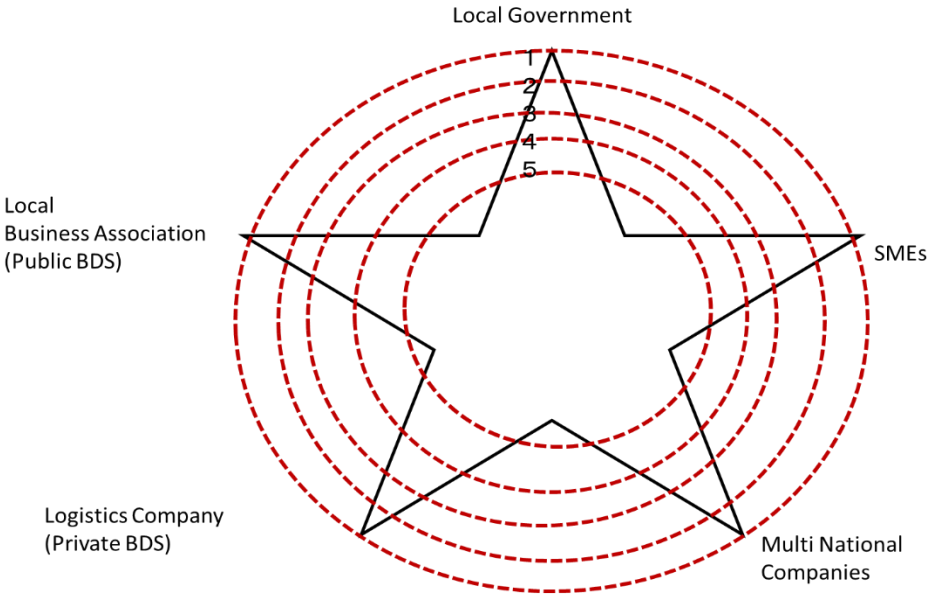

Chart 5 Most Important Factor in your Business
Name: Affiliation

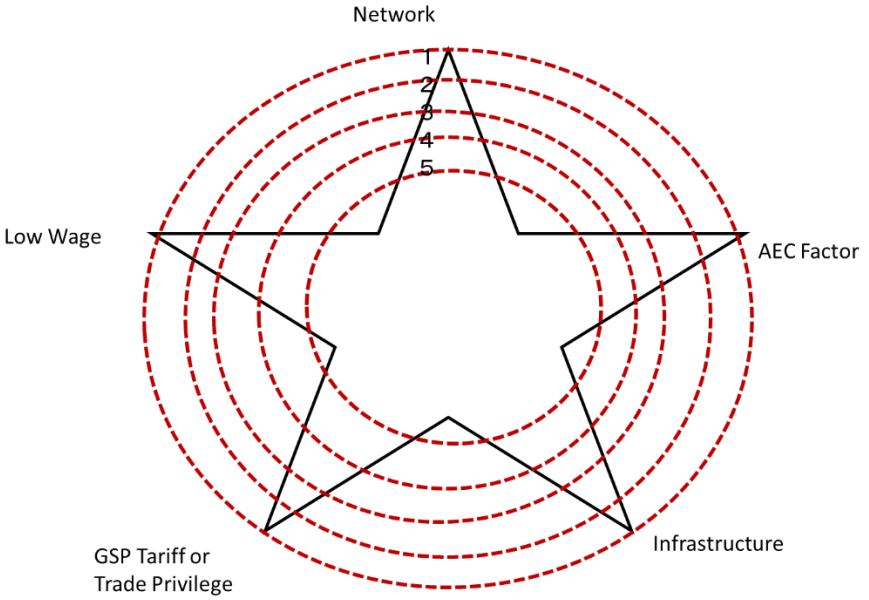

Chart 6 Your Dream in Future: to whom you wish to sell your production
Name: Affiliation

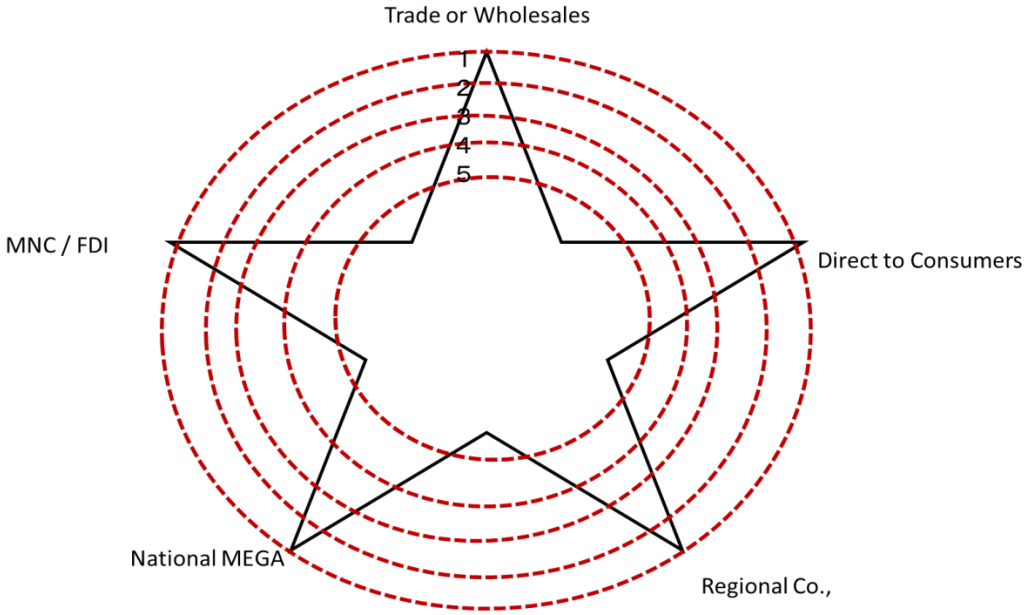

Chart 7 Most Serious Challenges for you in terms of Logistics
Name: Affiliation

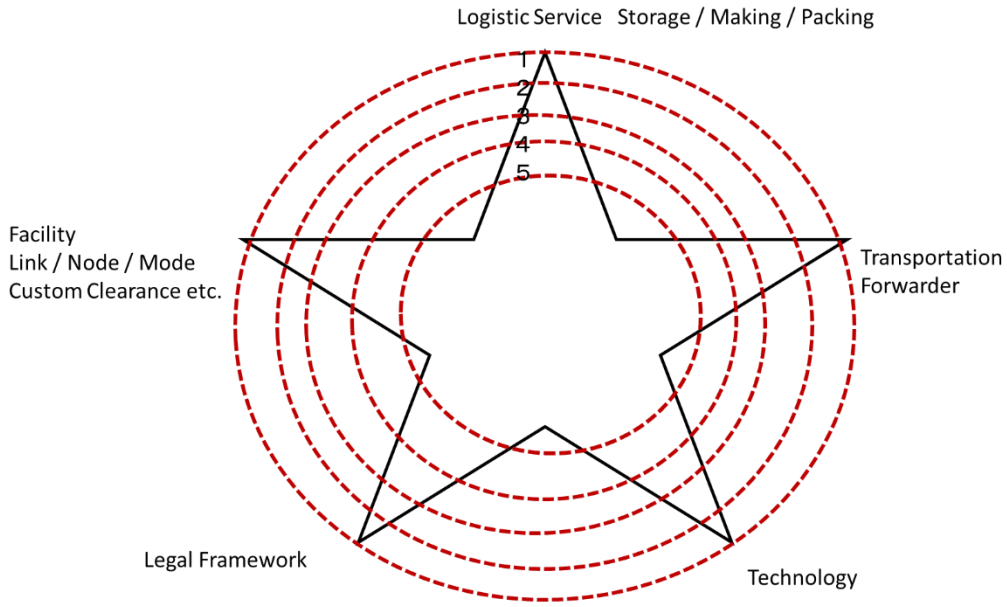

Chart 8 Most Supportive Service for You
Name: Affiliation

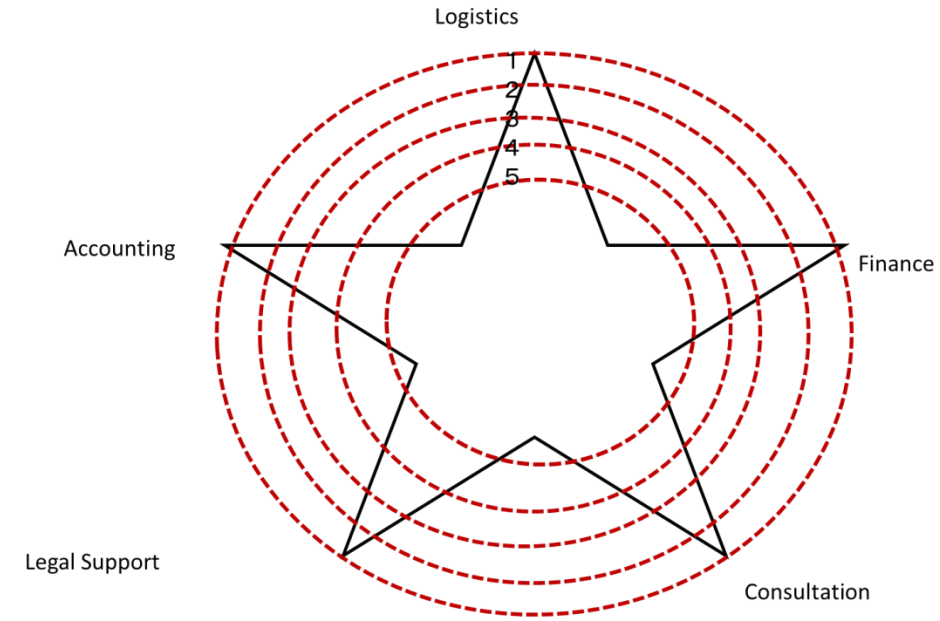

Chart 9 Who is “CONNECTOR” who can arrange your team for you?
Name: Affiliation

Chart 10 Any Challenge in front of YOU!
Name: Affiliation

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Porter M, (2003). *Competitive Strategy*, Free Press

[i] The term of "middle income trap" seems to be invented in the paper below:
Gill, I. and Kharas, H. (2007), *An East Asian Renaissance: Ideas for Economic Growth*,

The World Bank, Washington D.C., pp.17
Suehiro, A. (2009), *Thailand – A middle income country groping their way*, Iwanami Publisher (in Japanese), Tokyo, pp.23-24

[iii] https://datahelpdesk.worldbank.org/knowledgebase/articles/906519

[iv] Suehiro, A. (2014), *Studies on Emerging Asian Economies: Beyond the Catch-up Industrialization*, Iwanami Publisher (in Japanese), Tokyo, pp.128

[v] http://www.nikkei.com/article/DGXNASDD170BC_X11C12A2TJ1000/
http://www.e-logit.com/loginews/2012:052808.php
http://www.toyota-boshoku.com/common/jp/pdf/140519.pdf
http://www.nikon.co.jp/news/2013/0321_01.htm

[vi] Mr. Munenori Yamada, who was in charge of overseas business in Yazaki, regarded these companies behavior as "Inchworm" in the interview with him in August 2013.

[vii] Gorjidooz, J. and Vasih, B. (2009), The maquiladora industry: Recent downturn and future prospectus, International Business & Economics Research Journal, 8 (3), CO, The United States

[viii] We can find a variety of literatures for Japanese Foreign Direct Investment (FDI) production network and how it is expanding and its background based upon geo-economics such as Fukunari Kimura (Kimura, F. (2006) and (2007)).

[ix] Japan External Trade Organization (2015), *The Survey for Japanese Companies entering into Thailand 2014*, Bangkok, JETRO Bangkok, Bangkok, Thailand, pp.6

[x]http://www.kyohokai.gr.jp/wp-content/uploads/2012/06/e58d94e8b18ae4bc9ae382bfe382a4e383a0e38388e38394e38383e382afe382b9efbc88posco-japanefbc891.pdf

[xi] Prime Minister Prayut Chan-o-cha addressed in BOI seminar "Opportunity Thailand" on 15 February, 2017 to explain the classification of each Thailand 2.0, Thailand 3.0 and Thailand 4.0.

[xii] Thailand 4.0 is mentioned in a variety of official releases from the Government of Thailand such as below: http://thailand.prd.go.th/mobile_detail.php?cid=1&nid=3785

[xiii] For instance, Honda Auto moved to Prachinburi and Cannon also shifted to Korat for new
production lines after Thai mega flood in 2011.

[xiv] These prior research can be found as Japan External Trade Organization (JETRO), (2008), ASEAN Logistics Network Map, JETRO Publisher (in Japanese), Tokyo, and Dr.

Masami Ishida (2013)
http://www.ide.go.jp/Japanese/Publish/Download/Report/2013/pdf/B406_ch5.pdf

[xv] http://kenplatz.nikkeibp.co.jp/otagaien/

[xvi] More precisely speaking, "Masaka no tokiha Otagai Sama." means helping each other in case of emergency in Japanese old saying.

[xvii] Hosotsubo, S. (2012), "BC on the spirits of Otagai Sama," *Global Management December 2012*," Japan Overseas Enterprise Association, Tokyo, pp.12

[xviii] After collection of study of the possibility about the cluster linkages between Thailand and Japan, he proposed to change the definition of the word "Otagai BC" from "Otagai business continuity" toward "Otagai Business Community" and then to declare the new concept of Otagai project in 2013.

[xix] Schumpeter, J.A. (1926), "Theorie der wir Tschaftlichen Entwicklung 2nd edition, translated by Shionoya, Y. and Nakayama, I. and Tobata, S., (1977), Iwanami Publisher, Tokyo

[xx] Apple Company's i phone and i phad is typical example of innovation in comparison with "iPS Cell" discovered by Dr. Yamanaka, Nobel Prize winner.

[xxi] Govindarajan, V. and Trimble, C. (2012), Reverse Innovation, Harvard Business Review Press, MA

The Greater Mekong Subregion

The Greater Mekong Subregion (GMS) comprises five Southeast Asian countries and two provinces of China sharing the Mekong River, namely Cambodia, Lao PDR, Myanmar, Thailand, Vietnam, and Yunnan Province and Guangxi Autonomous Region of the People's Republic of China.

About Mekong Institute

Mekong Institute (MI) is a GMS intergovernmental organization (IGO) working closely with the governments of six countries to promote regional development and cooperation through capacity building programs and projects in three thematic areas of agricultural development and commercialization, trade and investment facilitation, and innovation and technological connectivity.

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