



**SUPPLY CHAIN MANAGEMENT PERSPECTIVE OF LOCAL
INTERMEDIARY IN COFFEE INDUSTRY IN THAILAND**

CHONG HAN REN

**MASTER OF BUSINESS ADMINISTRATION
IN
LOGISTICS AND SUPPLY CHAIN MANAGEMENT**

**SCHOOL OF MANAGEMENT
MAE FAH LUANG UNIVERSITY**

2013

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THESIS COMMITTEE



(Dr. Phoomhiphat Mingmalairaks)

.....CHAIRPERSON



(Dr. Suthep Nimsai)

.....ADVISOR



(Asst. Prof. Dr. Sangchan Kantabutra)

.....EXAMINER



(Assoc. Prof. Dr. Chackrit Duangphastra)

.....EXTERNAL EXAMINER

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Advisor Dr. Suthep Nimsai

ABSTRACT

This study explores the supply chain management (SCM) factors that are perceived by local intermediary in the coffee industry in Thailand. There is a need to understand the supply chain management system of local intermediary as well as factors that are structuring their businesses created by the fierce competition around. A paradigm shift in the coffee industry in Thailand in terms of customer demand as the consumption of soluble coffee is fast transforming into the fresh brewing coffee. This transformation leads to a study that focuses on how the local intermediary manages its own supply chain to meet the demand of the local market in Thailand. This study used qualitative research method to understand the current situation of the supply chain phenomena in the coffee industry in the Northern of Thailand. A qualitative method was designed to gather more in-depth understanding in the supply chain and a qualitative method also designed based on individual experiences in natural settings. A set of semi-structured interview is conducted on established local producers to understand their supply chain linkages and supply chain management method to sustain their businesses with the increasing new entrants into the market competition. Organizational, Technology and Environmental (OTE) framework is

then used to understand as factors that influence the supply chain management by local intermediary in the Thai context.

This paper shows the importance of the supply chain management of local producers to meet its demand for local consumption as the cultivation of coffee beans in the Northern of Thailand and is categorised as the specialty coffee market. On the other hand, there are increasing interests from local investors to venture in this competitive market. This forces a strong market competition to local intermediary as they need sourced the local coffee beans from the local farmers. Result for this research will present the OTE framework that leads to the strategy adoption for efficiency in the supply chain management of local Thai coffee intermediary. To develop an understanding of the coffee supply chain and the development of relationships in a supply chain management in the Thai coffee industry. Also, this study provides in-depth information on the coffee supply chain and its industry.

Keywords: Coffee Industry/Supply Chain Management (SCM)/Coffee Supply Chain

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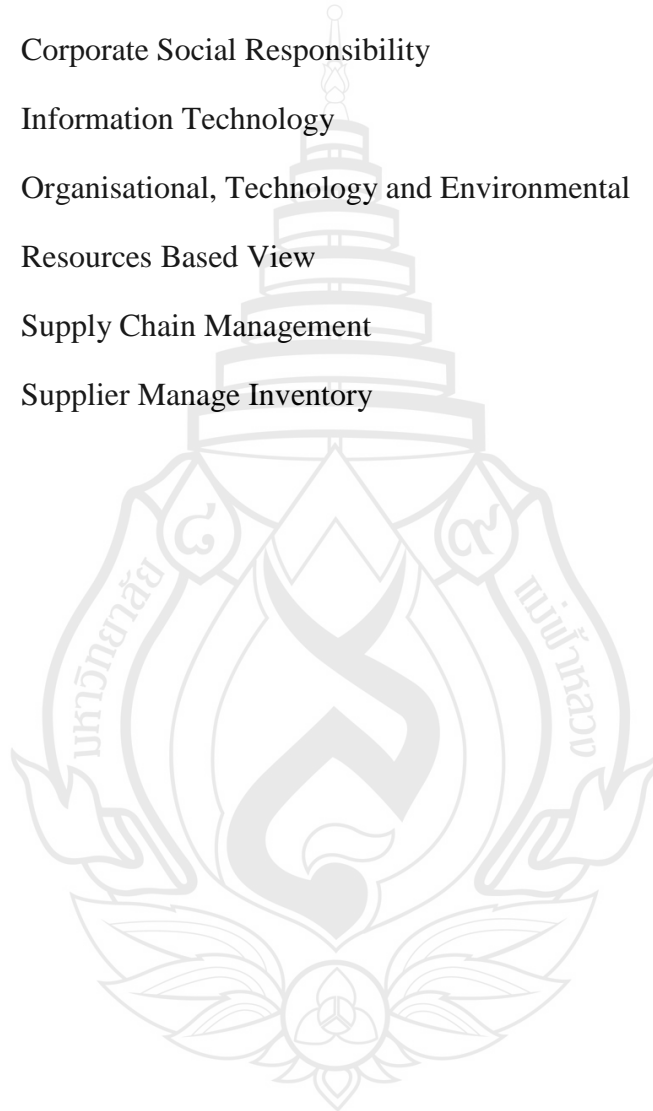
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ABBREVIATIONS

ASEAN	Association of Southeast Asian Nations
CSR	Corporate Social Responsibility
IT	Information Technology
OTE	Organisational, Technology and Environmental
RBV	Resources Based View
SCM	Supply Chain Management
SMI	Supplier Manage Inventory



CHAPTER 1

INTRODUCTION

1.1 Focus of Study

In this thesis, different factors are studied which have impact on successful strategy adoption in Thai Coffee Industry to improve business performance. This chapter explains the scope and significance of this research and provides a brief background of the factors that contribute to the perception of successful Coffee Industry.

This thesis reports three case study of the impact of the strategy adoption, which will contribute to an understanding of internal operations of a Thai Coffee intermediary and its supply chain relationships. Many studies have been conducted on supply chain management but there are only few studies where the main focus internally in the producer organization is to address internal issues affecting the relationships along the supply chain. This thesis focuses on local Thai coffee intermediary; the business that includes farmers' production, refinement of the beans and lastly roasting before it is ready for consumption.

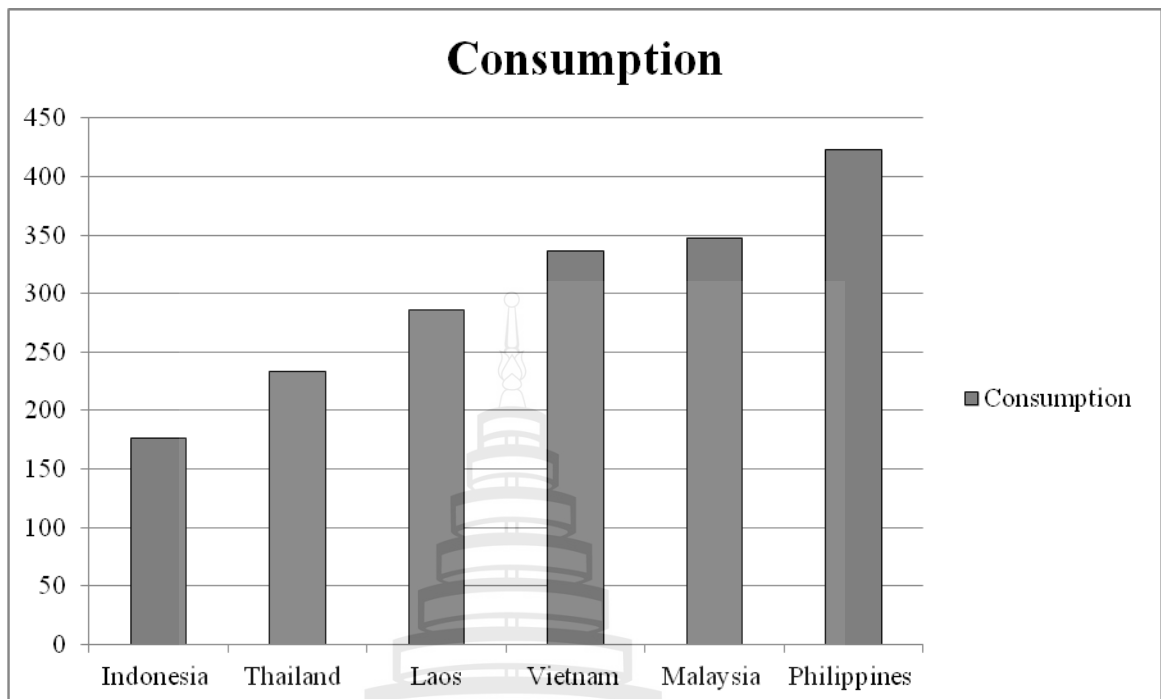
Being a foreigner, the researcher observed that there were many local cafés, restaurants and kiosks that sell brew coffee. This triggers question in the researcher's mind; why there are so many people selling brew coffee in Thailand? What are the factors that shape this industry? Where do they get the supplies of raw 'Arabica' beans? How do they manage the supply chain?

The global value chain for coffee is currently characterised by a 'coffee paradox', which categorised as 'coffee boom' in consuming countries and as 'coffee crises' in producing countries (Daviron & Ponte 2005). In the global market at present, industries have to design and manage their supply chain cost effectively and

efficiently from upstream suppliers until the downstream customers to create and provide the product to their customers. In the last decade coffee drinking had change the consumption pattern. It was more than just a cup of coffee. It has developed into a social context whereby it described the social standing of an individual. For example, having a cup of coffee in “Starbucks” was seen to be in a higher social context. Besides, coffee shops and café in this 21st century has also evolved more than just a place to enjoy a cup of coffee. It has been change into a meeting point where friends and family meet or a place to work for those who require extensive travelling in their job description. Coffee is also a popular among Thai culture and it is more popular when coffee markets remodel the business structure by offering different kind of coffee and quality to capture the consumer needs.

Recent economic development in Thailand played a big role in this coffee industry as the purchasing power has increased. The new generation X and Y, where these target market was emerged gave a big push especially with the abundant of information technology. Its applications have led to a revolution of technology adoption in various enterprises and their respective supply chains. According to Seranevijaikithan et al. (2008), there is an increase in the number of domestic coffee plants to sixty nine [in 2007], which creates a fierce competition amongst businesses in the industry and to survive their businesses. The local Thai coffee intermediaries need to reduce costs and improve efficiency along their business supply chain.

Different countries has differ factors, including politics, government policies, resources, capabilities of local coffee producer as well as many other mechanisms that impact on the strategy adoption in supply chain management. According to SME's Plus (magazine, July 2013), growth of the coffee consumption in Thailand is expected to increase 15 percent to 20 percent per annum. Figure 1.1 shows the coffee consumption in ASEAN.



Source Cited from SME's Plus Magazine , July 2013

Figure 1.1 Average Coffee Consumption in ASEAN

Figure 1.1 shows that Philippine has the highest level of coffee consumption, then Malaysia, Vietnam, Laos, Thailand, and Indonesia. While Thailand was at the fifth country in ASEAN that consume coffee products, the level of coffee consumption has been increased every year.

According to “The Five Competitive Forces” by Porter (1979), these forces can help local intermediaries mirror out their position in its industry that is minimised vulnerable to risk (Porter 1979). A better understanding of these forces helps local producers increase its information of its own industry and information are, therefore, managed to withstand challenges (Gilbert 2008).

1.2 Background of Coffee Production in Thailand

Coffee is another crop that is promoted by various public and private organisations to replace poppy in Thailand. The change from growing poppy an annual crop to coffee, a perennial crop, has resulted in the conservation of watershed areas, thus reducing soil erosion. Coffee is one of the few replacement crops that have proven successful and thus creating substantial income for the farmers who mainly are involved in shifting cultivation. With coffee cultivation they need not move and this reduce the destruction of forest and habitat. Coffee cultivation started in 1972-1979 by The Thai / UN Crop Replacement and Community Development Project was implemented as a pilot project to explore the viability of replacing opium poppy cultivation with a variety of substitute crops and alternative sources of income, combined with related community development activities (Angkasith 2001). It was found that “Arabica” coffee was a cash crop that could be promoted to replace opium in the long run and provide high cash incomes, not only to poppy growing farmers, but to a large number of other farmers in the highlands as well. The main reasons for this were that land and climate were suitable for coffee growing, transport and storage of coffee was relatively easy, yields were good and that there is was strong demand for good quality highland coffee.

Thus, arabica coffee was very appropriate and viable as a cash crop to replace opium in the highlands of Thailand (Angkasith 2001). According to Pongsak, coffee was a major income earner for Thailand as robusta coffee is grown mainly in the south where 80,000 tonnes estimated were produced and an estimated 500 tonnes of Arabica coffee were produced in the north. Thailand exports an estimated value 60,000 tonnes of robusta, and the remaining are used for soluble, roasted, ground, and canned coffee in the domestic coffee. As for Arabica coffee, it was mainly used for roasted and ground coffee in Thailand (Angkasith 2001).

1.3 Research Methodology

This thesis adopted case study as case studies accept and encourage multiple methods of data collection procedures and it also provides a deeper understanding from the local producers (Hartley 2004; Yin 2008). Due to limitation source in secondary data and written data, therefore semi-structured question was asked during interview to understand deeper and by using the understanding from the interview to map out the supply chain framework. This research started with a simple exploratory search, which included story sharing with the coffee shop owner about their motivation and views about the opportunity in coffee business. In order to understand the organisational, technology and environment contexts in supply chain management (Tornatzky et al. 1983; Tornatzky & Fleischer 1990). These interactions created a complex environment and communication to the researcher. With this way, the researcher could gather much more experienced with the context of their research and was able to justify their understandings based on the detail of their observations, discussions and interviews.

1.4 Research Objectives and Research Question

The research developed through initial engaging towards preliminary study. The scope of study based in the Northern of Thailand. The researcher established key objectives for the research, which are:

- 1.4.1 Understand the role of local Thai Coffee intermediary in the industry
- 1.4.2 To identify factors affecting the supply chain management process in the local Thai coffee intermediary.
- 1.4.3 To assess the impact of Organisation, Technology and Environment context on the local Thai coffee intermediary along the supply chain.

The main research question then is:

“How does local Thai coffee intermediary manage their supply chain to be competitive?”

Sub questions:

1. What are factors that contribute to perception of efficient coffee supply chain in Northern Region of Thailand?
2. How do process improvements of coffee supply chain in Northern Region of Thailand?

1.5 Conceptual Framework

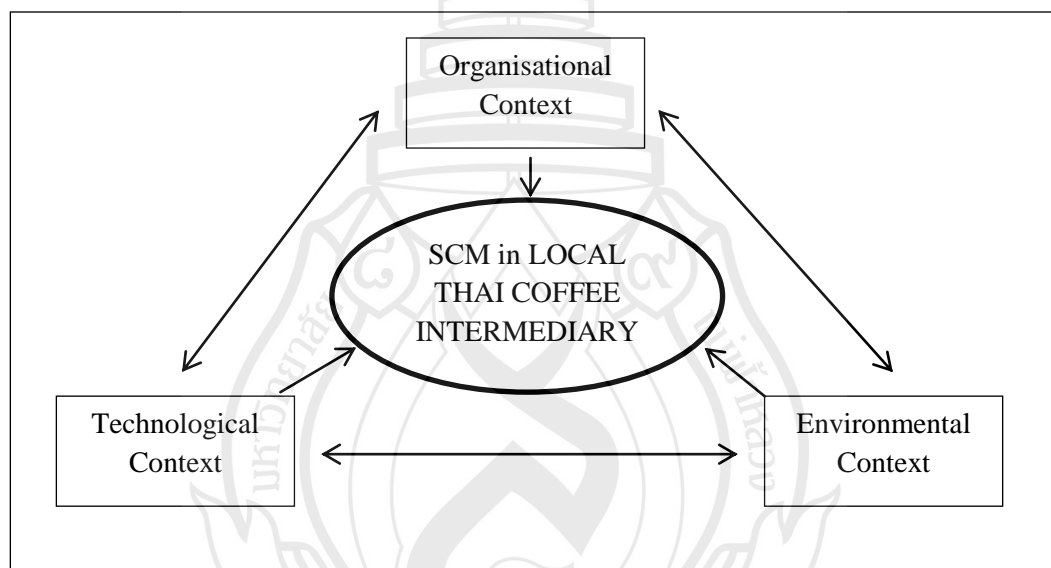


Figure 1.2 Conceptual Framework

Figure 1.2 demonstrates a conceptual framework that is used as a frame to study in this thesis. The three main factors are organisational, technological and environmental contexts. These three main factors have influence to the supply chain management (SCM) in Thai Coffee intermediary.

1.6 The Benefits of Study

The outcomes of this study were identified some implications, where this research can provide a better understanding of important factors in the coffee supply chain management by the local Thai coffee intermediaries, categorised the into organisational, technological, and environmental contexts (OTE).

Firstly, knowing organisational context and innovation by the type of structure can assist the organisation to understand their business and drive their business competency to increase business performance more efficiently. This research has shown that organisational factors comprise of the size of organisation, culture, organisational structure and management styles, and innovation capability (Mingmalairaks 2011).

Technological context comprises of the relative advantage, coffee recipe and available technologies, compatibility, reliability, and capacity of machines (Seranevijaikitkhan et al. 2008).

Then, under environmental context, which include information and competition (Prasad & Sounderpandian 2003). Managers or owners have to understand their business and their position in the industry and use organisational and technological factors to enhance their business capability, and their business competency to differentiate their products and business, be able to compete with, or be ahead of, their competitors (Cai et al. 2006).

The OTE framework used in this research guides the organisation to understand their business and identify their business competency, enabling them to enhance their business performance to successfully their coffee supply chain in their organisation, thus resulting in improved business performance (Carter & Rogers 2008). The integration of organisational, technology and environment context and allow their business to achieve long-term sustainability as they prepared their coffee business for the rapidly changing business surroundings.

1.7 Structure of Thesis

Thesis structure can be follows are;

Chapter 2 reveals a review of literature related to fundamental principles and theories that contribute to an understanding of a supply chain management. Reviews of literature include importance of supply chain management, competitive advantage, resources based view of a company, and OTE framework, which contributes to an improved performance in the supply chain.

Chapter 3 provides a detailed description of the method used in this research. This chapter discusses the philosophy of the research method, data collection and data analysis. This chapter concludes with a discussion of the data collection and analysis techniques.

Chapter 4 provides results from the data analysis with transcribed data and thematic coding for analysis, which will be the base of the discussion in this research. Research questions and objective of this research also discussed in this section with the data in this research.

Chapter 5 provides conclusion for the exploratory research, which this chapter looks into the future and implication of this research. In addition, discussion of major findings of this research is also discussed, in which the perception of supply chain management in the local coffee producer and subsequently end with conclusion.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter reports on previous studies on supply chain management in the area of its importance in the current business trend. Subsequently, this chapter looks into role of various actors that involve along the coffee supply chain. This chapter also aims to explain the perception of organisational, technology and environmental context along the coffee supply chain management.

2.2 Supply Chain Management

The supply chain is defined as the set of complementary or interdependent activities located at different steps of the production process from producer to consumer (Barney 2012). It involves the flow of products, money and information, as well as main actors' strategies. Supply chain management is also regarded as a network that links the industry and provides needs to the consumers and it is an important factor that local producers need to understand it (Zhao et al. 2010). According to Simchi-Levi (2003), he defines the term supply chain management that the supply chain management is regarded as a set of approaches utilised to efficiently integrate suppliers, manufacturers, warehouses and stores, so that the merchandise is produced and distributed at right quantities, to right locations. Besides, supply chain management also helps businesses to minimise costs while satisfying customers at the service level (Simchi-Levi et al. 2003).

A supply chain is the set of economic actors and their relations, which contributes to the production, processing, distribution and consumption of a product. In a supply chain, information is the linkages along the chain which also comprised transaction planning, order placement, operations scheduling and logistics network at each level of the chain, and the information can be optimized in the information flow to serve the actors along the supply chain (Yu et al. 2001).

According to Ponte (Ponte 2002), there has been a general shift of power in producing countries to consuming countries in the coffee supply chain following the popularity of coffee drinking. Due to the demand and supply mechanics, business relationship between producers and buyers have developed into a more complex and has affected the change in the local market of coffee bean product, either the local exporters disappear or merge themselves with international traders. Ponte (2002) argues that with some exceptions there are some vertical integration in the supply chain between roasters and international traders which a firm owns its upstream suppliers and its downstream buyers. In general, an approach of supply chain management (SCM) addresses to the relationship between transactions and human behavior, information sharing and knowledge, product and financial flows throughout the chain. SCM offers an opportunity to capture the synchronisation of external organisation and internal communication of a company integration and management, dealing with entire activities of the business (Lambert & Cooper 2000).

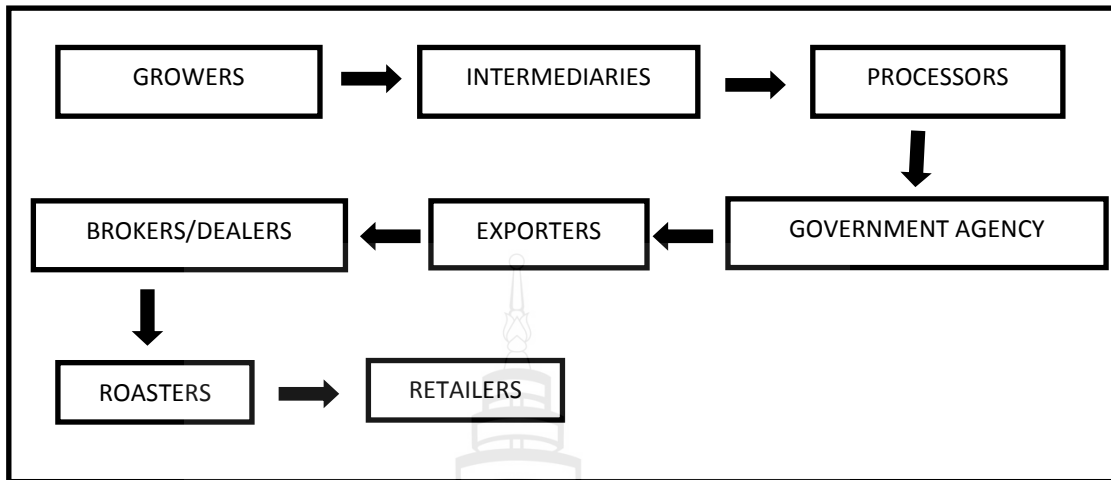
Udin et al. (2006) discuss that the effectiveness and sufficient support from internal supply chain functions are key main factors in managing their supply chain for organisations to operate their workflow smoothly and successfully. Internal supply chain function facilitates employees to work closely with each other. This can provide positive impact on organisations in developing better relationships with both upstream suppliers and downstream customers.

Supply chain management has become a common practice across industries since it addresses long-term strategic alliance, supplier-buyer partnerships, cross-organisational logistics management, joint planning, control of inventory, and information sharing (Cao & Zhang 2011). Effective supply chain management can lead a business to a lowering of the total amount of resources required to provide the necessary level of customer service to a specific segment and improving customer

service, whilst increased product availability and reduced order cycle time. According to Van Weele (2005), SCM was described as the management of all activities such as information, knowledge and financial resources, that associated with the flow and transformation of goods and services up from the raw materials suppliers component suppliers and other suppliers in a way that expectations of end users of the company are met or surpass. Managing of the supply chain sheds light on the enterprises, institution, operations, as well as the volume, bargaining capacities, technologies, production relations and price structure. Different markets existing throughout a product supply chain was described in forces in the industry (Viere et al. 2012). In the real world, many institutions, regulations, personal and business relations interfere with the decisions and the definitions of market and prices and must be taken into account. However a supply chain must be analysed as a whole complex system and not just as the result of supply and demand.

2.2.1 The General Overview of Actors in Supply Chain for Coffee

The supply chain was the sequence of activities and processes required to bring a product from its raw state to the finished goods sold to consumers. Coffee supply chain was often complex and varied in different countries, but typically consisted of growers, intermediaries, processors, government agencies, exporters, brokers or dealers, roasters and retailers. Each of them had a role to play in the supply chain (Reinhardt 2000). Figure 2.1 demonstrates the coffee supply chain.



Source Coffee - The Supply Chain (van Ryn et al. 2004)

Figure 2.1 Coffee Supply Chain

Figure 2.1 explains the link of stakeholders involved in the coffee supply chain, starting from the growers, which includes the upstream along the supply chain until the downstream of the supply chain such as the retailers. In the coffee supply chain, stakeholders are explained; growers usually cultivate on a small plot of land of just one or two hectares and many do some primary processing (drying or hulling themselves). Intermediaries regularly involved in many aspects of the supply chain. They could buy a coffee at any stages between coffee cherries and green beans and do some of the primary processing such as washing, fermentation and drying of the beans or they could act as collectors to gather sufficient quantities of coffee from many individual farmers to transport or sell to a processor, another intermediary, or to a dealer. There could be as many as five intermediary links in the chain. These intermediaries are the collectors of coffee beans from the small scale coffee growers in which they create economies of scale. Processors refers to individual farmers who have their own equipment to process coffee or a separate processor that forms a farmers' co-operative that pools resources to buy the equipment to convert 'cherries' into green coffee beans. Government agencies play their role in some major coffee

producing countries such as the African region and South American region as the government controls the coffee trade, perhaps they could buy the coffee from processors at a fixed price and resell them in auctions for exports (Ibrahim & Zailani 2010). As for exporters, they buy coffee beans from cooperatives or from auctions and then sell it to dealers. They have expertise and knowledge of the coffee products in local area and producers generally enables them to guarantee the quality of the shipment. Dealers or brokers supply coffee beans to the roasters in the right quantities, at the right time, at a price acceptable to the buyer and seller. Roasters are people whose capability is to turn the green coffee beans into products that people enjoy drinking.

According to Ponte (2004), the coffee industry refers to as roaster driven and they also add value to the product through marketing, branding and packaging activities. Retailers then refer to sellers of coffee products, which range from supermarkets to food and beverage outlets. In the context of actors in the coffee supply chain may differ from one country to another. In summary, a supply chain is only as strong as when it is effectively linked which the gap between each chain is optimised by information flow and understanding of industry structure. Each relationship exists between the supply chain involved in the separate stages of the chain whether it is in the structuring of product distribution, arrangements for payment and arrangements for handling, or in storing the product. The heart of these relationships is the way in which people treat each other. Long-term business relationships need to be based on honesty and fairness parties to a trading agreement need to feel that they are getting a fair deal. The following section discusses on the importance of supply chain management.

2.2.2 Importance of Supply Chain Management

SCM is being viewed as one of the core strategy to address these challenges and organisations have shifted the strategy not only internally but also to work closely with their suppliers, customers and competitors in a collaborative supply chain environment (Chong et al. 2009). Whilst most organisations operate in an uncertain

and competitive business environment at present, supply chain management emphasises the overall and long-term benefit of all parties along it supply chain and on the chain through co-operation and information sharing (Gunasekaran & Ngai 2004). In the 21st century, the scope of supply chain management has expanded and gained its importance in an organisation. Along every supply chain, each supply chain has its own characteristics, function and information flow. Each supply chain is viewed as a linkage in the supply chain management. Therefore supply chain management is view as a core strategy for adaptation and needed for various reasons such as to improve operations, increase efficiency of a firm against competitive pressure, optimised costs of administration and operations, and balance the market uncertainties. However, to form an effective and efficient supply chain as strategy, businesses need to developed relationship both internal and external organisation together with information technology enabling information flow, coordinating supply chains are designed to meet the strategic and operational processes and objectives of the business (Li et al. 2009).

Alvarado and Kotzab (2001) explain that key elements in supply chain management are the activity integration together with the importance of logistics integration into the marketing channel for management. These integrations would assist the implementation in these critical systems effectively (Alvarado & Kotzab 2001). Hagelaar and van der Vorst (2001) also discuss that the supply chain is not a chain of businesses nor a business to business relationship, but a network of multiple business and relation. Supply chain has becomes a key business process of a firm. In within the supply chain, linkages is connected in different forms such as legal, long term contracts, market transactions and vertical integration (Hagelaar & van der Vorst 2001).

Ponte (2002) explained that, supplier manage inventory (SMI) adoption by the roasting companies by global firm is an indicator of the increasing power of roasters over international traders. As a result of SMI adoption by roasters and with the combination of market in producing countries, international traders have strengthened their supply network. This is an example of an integration of technology adoption practice by the global firms with view as the key in managing the supply chain in order to achieve a closed balance between supply and demand, which minimised the

uncertainty in the market. Whilst, the supply conditions of various types and origin of coffee would not have to face changes in variety of blends into ensure there is always products available to match the demand.

The concept of integrating the supply chain activities is driven by the need to streamline operations to achieve business goal. With supply chain integration, the concept of the term 'integration' was also aimed to solve the bottleneck problems to overcome the supply and demand uncertainty. Ponte added, in some cases, international traders have moved upstream all the way to the domestic trade and some cases to the estate production in order to gain more bargaining power in the supply chain (Daviron & Ponte 2005; Ponte 2004). Therefore, supply chain management is regarded as a network that links the industry and provides needs to the consumers and it will be an important factor that local producers need to understand it (Zhao et al. 2010).

Many firms in coffee supply chain attempts to find ways to improve their flexibility and responsiveness in order to be more competitive by changing their strategy, methods and technologies that include the implementing supply chain integration and information technology. Also, according to literature, information technology (IT) in supply chain integration demonstrated that IT is an essential ingredient for business survival and improves the competitiveness of firms (Gunasekaran & Ngai 2004). This IT concept could be used to enhance business performance along the coffee supply chain.

In addition, SCM emphasises the overall and long term benefit of cooperation and information sharing by all members along the supply chain, which includes the coffee supply chain, replacing the adversary relationships common in traditional commodity markets, with a concept of collaboration. Successful SCM manages the relationship between linkages from upstream local Thai coffee intermediaries to downstream consumers to ensure the efficient coffee products and supply of products that meet consumer requirements in terms of quantity, timeliness, quality and price (Gunasekaran & Ngai 2004). The following topic discusses on competitive advantage.

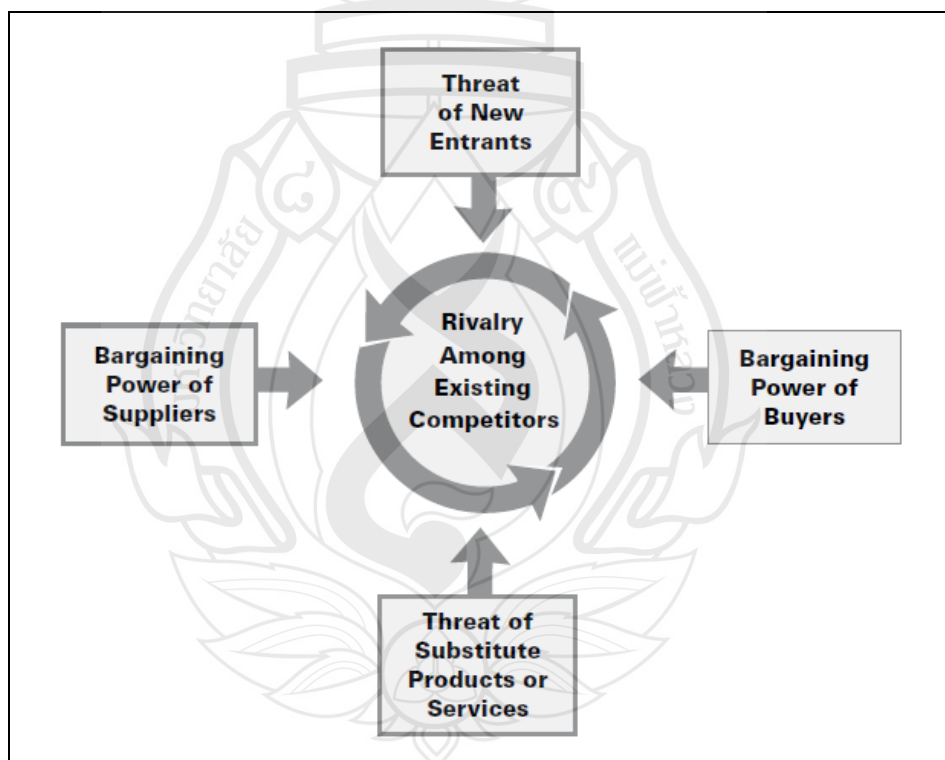
2.3 Competitive Advantage in Coffee Beans Business

Competitive advantage is defined as having superior performance as compared to the other competitor in the same industry and these performance is identified as industry basic of unit of analysis (Porter 1979). This can be achieved through many channels such as lowering prices, offers better products and extend the marketing efforts. However, businesses need to assess their position before making any decision. According to Porter's Five Forces, it is an effective, simple and powerful tool to understand which powerful factor lies in a business environment. The reason is because it helps businesses to understand both the strength of the current competitive position and the strength of a position of a business considering moving into. With a clear understanding of five forces of competition, a firm can take fair advantage of a situation of strength, improve a situation of weakness, and avoid taking wrong steps (Porter 1979; 2008).

Conventionally, the five forces of competition were considered as a tool that used to identify potentiality of new products, services or businesses to be profitable. An early stage to a design of a competitive strategy is to understand the industry structure and the forces shapes it (Porter 2008). Five forces of competition highlight five important forces that determine competitive power in a business situation. Firstly, the supplier power force, it is the force that a firm assesses their suppliers when they increase prices of their supplies. This is driven by the number of suppliers of each key input, the uniqueness of their product or service, the strength and control over a firm and the switching cost from one to another. Secondly, the buyer power force, it is the force that a firm assesses their buyers or customers to decrease prices of products or services down. This is driven by the number of buyers or customers, the level of importance of each buyer to a firm, and the switching cost of the firm's products and services to other competitors.

Thirdly, the competitive rivalry force, it is the number and capability of competitors that offer equally attractive products and services to customers in the market. That was because suppliers and buyers would like to take alternative partners if they find better offers. On the other hand, when a firm has competence and could

operate their business better than other competitors, they are considered to have better strengths. Fourthly, the force of substitution, it is force that affected by the ability of customers to find different alternatives. If the substitution is easy and viable, then this weakens the firm's power. Finally, the force of new entrants, this final force restructures the industry where power is affected by the ability of people to enter into the market. When the cost to entering into the market is low, there are few economies of scale in place for new entrants to enter to the market. Therefore, if there is little protection for key technologies, then new competitors can rapidly enter the market and weaken a firm's position. Figure 2.2 demonstrates the five forces model of competition.



Source Porter (2008)

Figure 2.2 The five forces the shape industry competition

According to Ponte (2002), the differentiation in the coffee industry is about the marketing and distribution of the coffee beans and the branding. This is one of the alternatives that can be observed. The firm is able to gain competitive advantage in the market. Competitive advantages that could be found from businesses are such as information sharing, resource based view, core competence and value chain. However, competitive advantages that are viewed in this study are information sharing and the resource based view.

2.3.1 Information Sharing

Information and knowledge sharing is the process of exchanging knowledge between two or more people or between linkages along the supply chain. Information and knowledge sharing is of vital as it can be used to create a competitive advantage for the organisation (Porter & Millar 1985). Information sharing is a key ingredient for any supply chain management system (Li et al. 2009). Data availability in an organisation can be shared, viewed, and distributed amongst stakeholders along the supply chain, whilst the process of information sharing can improve the efficiency and effectiveness of the supply chain. The result was appeared that an organisation could satisfy customers' needs more rapidly and accurately (Li et al. 2009). Within the SCM perception, there are many aspects that need appropriate improvement for future practical application, whilst through issues such as performance evaluation of a supply chain and its members, inter-organisational coordination and management, how the supply chain members share the outcome of the operations (Lambert & Cooper 2000).

Interaction in a supply chain between individuals and knowledge sharing amongst supply chain members are of vital (Ponte 2002). Hence, utilising the information sharing within the organisation and amongst partners in a supply chain could help the business to reduce cost of operations internally and externally along the supply chain. Management style and culture role can contribute to support and encourage organisational knowledge sharing through the adoption of appropriate structures and policies (Mingmalairaks 2011). Increasing the level of vertical integration and information sharing amongst members along a supply chain has

become a necessity for improving the effectiveness of supply chains (Daviron & Ponte 2005). Sharing information within the organisation could lead to an appropriate coordination as each member or employee has a mutual understanding and they learn information similarly. Coordination refers to a synchronising of an integration of activities and responsiveness of each staff member within the organisation to ensure that all tasks of the organisation undertake efficiently. Also, the aim of coordination is to ensure that resources are used appropriately and efficiently (Zhao et al. 2010).

The knowledge and experience gathered in different supply chain is not being systematically and successfully integrated into organisational knowledge due to different basis of customer needs and demands (Ponte 2002). Hence, the issue of managing this strategic resource through adopting a suitable methodology and a suitable approach has been brought to the fore. In recent years, there have been a number of research reports and articles on knowledge domain in knowledge management initiatives for Supply Chain Management (Chow et al. 2007). The availability of timely information enables various stages of supply chain participants to undertake their tasks more appropriately. Thus, they will have better integration and coordination to implement a new, cost effective and dynamic supply chain operations model (Chow et al. 2008). This timely information is therefore necessary to appropriately share amongst employee members within the organisation to gain most benefits of the information equally.

Many key factors have been explored in the area knowledge sharing or transfer in a supply chain such as cooperation within the organisation, relationship, and communication ability. Cao and Zhang (2011) suggest that cooperation within the organisation and relationship along the supply chain such as with customers and suppliers are key main factors to enhancing knowledge polling in a supply chain. Several elements present in successful collaborations include the presence of appropriate communication, a sense of trust and respect, and ownership of commitment. There is a need for collaboration in creating a pool of knowledge resources in the organisation.

At this point, it is highlighted that SCM strengthens the concept of whole supply chains working collaboratively to obtain business benefits. Knowledge management, knowledge sharing and information sharing principles adopted for the

whole supply chain can unleash immense creativity and innovation providing significant competitive advantage to supply chain partners in the industry during periods of intense competition (Simatupang & Sridharan 2002). The improvement along the supply chain can be obtained from substantial information sharing through IT can result in the problem of information overload as the sheer volume of information to decision makers.

Appropriate management in information systems can help the organisation to manage knowledge in the organisation in line with the need within the organisation. Hence, information sharing and forecasting together with the use of information systems are considered to be competitive advantage for firms. In the knowledge-based view, knowledge can contribute substantially to an intangible strategic resource in the supply chain. On the one hand, a firm is custodian of a large amount of knowledge that is present in either tacit or explicit knowledge and stored in a variety of sources within the organisation such as in the minds of experts, in databases, documentation and knowledge repository. The multi-directional flow of knowledge across the supply chain makes the interactions among the links highly decentralised. Because of this, the efficiency of the knowledge flow and manipulation within these interfaces is critical necessary for the supply chain.

The advantage of information sharing in SCM then has been intensively discussed (Zhao et al. 2002). Information sharing improves coordination between supply chain processes to enable the material flow and reduces inventory costs. Information sharing leads to high levels of supply chain integration by enabling organisations to make dependable delivery and introduce products to the market quickly.

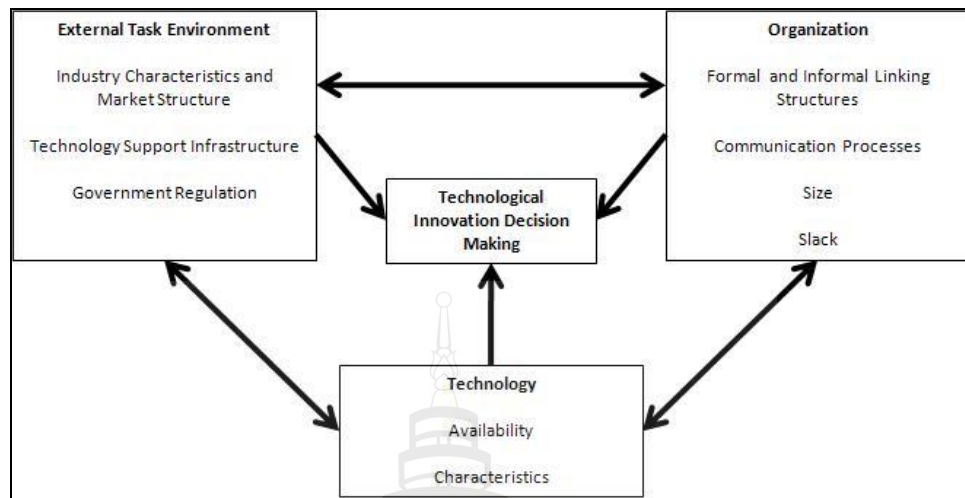
2.3.2 Resources Based View

Resource based view is explained that an organisation has to view their resources and capabilities in order to create and build up competitive advantage (Prahalad & Hamel 1990). This subject was discussed extensively because the businesses need to assess themselves. This process need to be in line with the supply chain management and also in line with the company strategy. In addition, continuous review on the resources, capabilities, diversification and linkages to the company will

further improve the supply chain management (Nath et al. 2010). RBV concept explains diversification improves performance if the resources such as market knowledge shared between partners are rare, valuable and inimitable (Prahalad & Hamel 1990). Day (1994, pp.138) suggests that “every business develops its own configuration of capabilities” according to the environment, and “it is not possible to address all possible capabilities”. The following topic discussed organisational, technology and environmental contexts.

2.4 Organisational, Technology and Environment Contexts

A framework explores organisational, technological, and environmental factors and it is referred to as the OTE framework (Tornatzky and Fleischer 1990). These three elements present both constraints and opportunities for technological innovation. Thus, the organisational, technological, and environmental context influence the way a firm sees their need, searches for information, and adopts new technology. The outcomes of this study were identified some implications, where this research can provide a better understanding of important factors in the coffee supply chain management by the local producers. In strategic planning process, it is of vital for a firm to analyse these 3 factors to develop core competencies and decision making. Figure 2.3 demonstrates the link of organisational, technological, and environmental context.



Source Adopted from Tornatzky and Fleisher (1990)

Figure 2.3 OTE Frameworks

2.4.1 Organisational Context

Tornatzky and Fleischer (1983; 1990) define the organisational context into several descriptive measures including organisation size, organisation formation, organisational structure, human resources, availability of resources, decision making, links between employees, and the transactions performed throughout the organisation. Firm create the organisation to develop or initiate vision and mission. Therefore, organisational contexts in this research referred to structures and business processes, which include organisation profile, size, management style, and human resources.

2.4.1.1 Organisation Profile

From previous literature, organisation profile was used to demonstrate the information and organisation background of the company of the case study. The organisation profile includes organisation environment, financial and market status information and product development information (Udin et al. 2006). Furthermore, classification was developed due to the reason that different industries have different SCM activities. For example, SCM in manufacturing and agribusiness has different

form of supply chain activities. The type of industry data is fundamentally needed in order to help classifying the organisation into various standards or groups such as high technology, medium technology, or low technology.

2.4.1.2 Information Alignment

Financial information and financial movement in the organisation involve as part of SCM mechanism. Managing the organisation financial and through this information top management can make decisions to proceed according to their plans. Market status of an organisation is vital in this current competitive business environment. Organisation is also the branding of their own and this carry's weight in the supply chain as trust and reliability is embedded in an organisation management style and structure that will reflect the years and buildup. It has proven that the structure and management of the supply chain plays an important factor in improving organisation's competitiveness to capture large market share (Womack et al. 2007). Thus, a product or service is viewed as the main contribution to competitiveness in the market. SCM effectiveness and efficiencies in an organisation deliver a great impact on the product development activities. According to Pawar and Sharifi (2002), the importance of supplier participating in product development activities, in order to capture market, share through low cost production with high quality.

2.4.1.3 Product Development Information

Products play an important role for the organisation and also create competitive advantage to an organisation. An early collaboration between suppliers and producers in product development is SCM efficiency. Information sharing between these two can be described in such, training and knowledge transfer. In recent years, SCM has evolved more than information flow and physical flow. Interaction also becomes more complex.

2.4.1.4 Internal Function Strategy

The internal function strategy is important to align the SCM and with organisation internal function (Sarkis & Sundarraj 2000). Furthermore the ability of an employee to work closely internal function with other employees also impacts the organisation in developing appropriate relationship with suppliers and customers in the organisation. Relationships include development in commitment, responsibility, teams, training, value and policies of organisation, integration and linkages,

knowledge, involvement, support and utilisation of information, communication and technology. As for an effective internal relationship, issues such as leadership and commitment, integration and resources utilisation should be considered. Trust is not only important to the external supply chain in collaboration development, but also inspires internal relationship in the organisation. Information sharing flow the important information internally and externally within the supply chain, the capability for the supply chain members of sharing has an impact on the SCM. An effective information sharing consist effective communication aspects. An emphasis on co-operation, understanding and mutual interest development can be improved through training as it is part of creating sense of trust among members in the organisation which contributes to close relationship development (Udin et al. 2006).

2.4.2 Technological Context

Tornatzky and Fleischer (1990) state that technological context involved in the organisation both internally and externally. Technological contexts refer to tools, machines, skills or equipment that a firm operates. The example of technological factors includes the availability of technologies, functionality, reliability, compatibility and relative advantages. Customer expectations, IT technology development and new forms of inter-organisational relationship have contributed to the importance of technological usage in the current SCM practice.

Technology has been referred to as a means of systematic knowledge transformed into, or made manifest by, tools and is considered instrumental in determining the efficiency, which elements in a society are able to accomplish their tasks (Tornatzky & Fleischer 1990).

Furthermore, technology is seen as a means by which firms can strive to adapt to the requirements of the current rising competition and the economic environment as the global economy is experiencing rapid change. In addition, firms that operates in highly uncertain and rapidly changing environments need to maintain their technological expertise to be able to compete with other competitors at the same or higher level (Lee 2010). Different organisations may utilise different types of technology depending on the type of business and requirements of business to acquire technology. Some organisations use only one type of technology while other

organisations may use two or more in combination. An example in Table 2.1 demonstrates classification of industry based on technology.

Table 2.1 Classification of Industry Based on Technology Implemented

Industry Classification	Type of industry
High-technology	Scientific instrument, pharmaceuticals, electronics, IT and communication equipment, aerospace, electrical machinery
Medium-technology	Chemical, rubber and plastics, non-electrical machinery, motor vehicles and other transport equipment
Low-technology	Wood products, textiles, footwear, food and beverages, tobacco, paper and printing petroleum refining

Source Adapted from Willmott and McCarthy (2001)

On the other hand, by knowing employee's data, the organisation can categorised employees into small various and different groups as described previously. With the data of that relates to the age of organisation, information about the duration of organisations established in that industry and their relationship with suppliers and customers whether it is initial, growth or maturity phase can be identify (Udin et al. 2006).

Technologies, in summary, can be concluded as tools or systems by which they transform part of the environment and are derived from human knowledge to be used for business operations that can assist the operational processes of the business, eliminating operational costs, increasing the quality level of production, operational time savings, reliability, and flexibility in operational process. According to Ponte (2002), discussed the motivations on the adoption of supplier-managed inventory system (SMI), along the supply chain management where the main idea was to allow roasters to minimised cost by transferring the working capital cost in inventory

holding and storage. This is one of integration that is increasingly adopted by food retailing field as freshness and quality are the main concern to provide customers the best.

2.4.3 Environmental Context

Environmental factors refer to the external environment that effect on the operations of a firm. Examples of environmental factors include competition, knowledge, and technology support infrastructure. The environmental factors refer to the environment in which an organisation conducts its business (Angela et al. 2005). There are various types of environmental factors, including industry structure; competitors; access to resources supplied by others; and dealing with the government (Tornatzky & Fleischer 1990). In view of competition intensity and information technology intensity were selected because they have an impact on developing countries as many new small and medium sized enterprises emerged in an variety of industries and struggled in competing with each other (Mingmalairaks 2011). Information technology was another concern as business owners in the small and medium sized organisations had to utilise the information to improve their business in order to respond their supply chain towards the needs of the customers (Jüttner et al. 2007).

2.5 Relationship Management

There has been an interest in how Chinese culture impinges on management control because management control in the coffee business and industry utilised the personal connection to link with local producers or intermediaries and their customers. Thais have adopted Chinese cultures in building up connection with people and they also learn how to apply their connection to the business well. The researcher attempted to understand the Thai social context and how they build up their relationship in business successfully.

The sociological theory of social networking and social capital has emerged, giving wide-spread attention to attempt to make an understanding in building up the relationship in business since the 1980s (Xuewei 2009). To further explain about the Chinese concept of relationship management, many researches were conducted about the about the phenomenon of guanxi inherent in Chinese society such as Fan (2000); Fu et al. (2006); Wang (2007); Wong & Tam (2000); Xuewei (2009).

“Guanxi” refers to as a personal relationship or connection and it has been presented framework on relationships suitable for businessmen in the context-laden Chinese society (Wong & Tam 2000). To build up a good guanxi is one of the key approaches to enter or deal in businesses. However, many business connections have found and exercised in executive level, which includes the businesses in the coffee industry in Thailand (Fu et al. 2006). The concept of guanxi is rich and complex than networks because guanxi is not only inherent nature different depending on the type of people, but also depending on the quality or level than guanxi is being built. Interpersonal relationships are much broader than guanxi in the sense that it denotes any relationship between the two people (Fu et al. 2006; Wang 2007).

Guanxi is a Chinese classics and practice academics investigated in this modern age, guanxi has become a famous theory after the 1980s (Fan 2000) as interpersonal relationships exist everywhere. Figure 2.4 explains the approach of guanxi network dynamic.

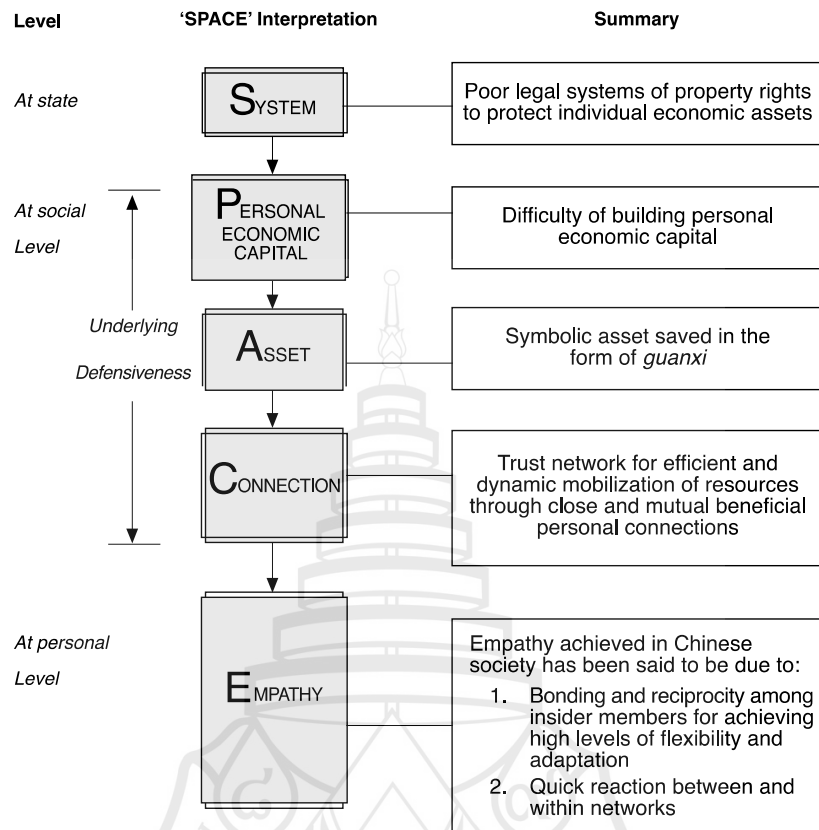


Figure 2.4 “SPACE” approach to the guanxi network dynamic: a summary of socio psychological dimension (Wong et al. 2000)

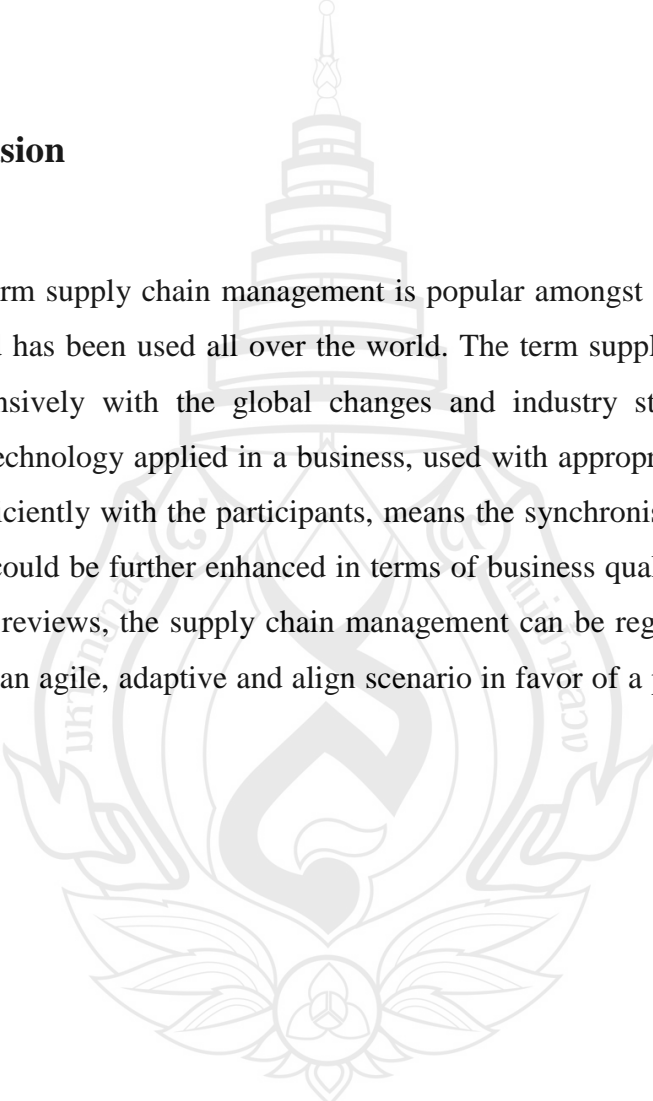
Figure 2.4 is a holistic link to explain all variables by proposing the “SPACE” approach in the “Guanxi” theory in applicable with the coffee businesses in the coffee industry in Thailand. The first level was poor legal systems and government discouragement of ownership of personal economic capital. Therefore, Chinese then appeared to save symbolic asset in form of *guanxi* or relationship in business networks, which includes the coffee businesses in the coffee industry in the northern part of Thailand. With this symbolic *guanxi*, each party within the security network enjoy the trust network for efficient and flexibility of individual through close and mutual beneficial personal connections as also happened in the coffee industry in Thailand. An important insight of the social network perspective is that actions and

outcomes can be predicted by the positions individuals occupy in a network relationship (Xiao & Tsui 2007).

The relationship of the coffee businesses started from this point with the local producers and the local intermediaries. The need to maintain relationship with local producers and the local intermediaries is strongly required for long term business cooperation.

2.6 Conclusion

The term supply chain management is popular amongst businesses in various industries and has been used all over the world. The term supply chain management evolved extensively with the global changes and industry structure. In addition, information technology applied in a business, used with appropriate information, and integrated efficiently with the participants, means the synchronise work system of an organisation could be further enhanced in terms of business quality and performance. Based on the reviews, the supply chain management can be regarded as activities or tool to create an agile, adaptive and align scenario in favor of a particular business or individual.



CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter provides a detailed explanation of the research method and processes taken in this research study. This study uses a qualitative methods and also interpretive approach. The participants invited the researcher to visit them at their premises then shared their work and industry experiences to the researcher with the consent and willingness.

An overview of stages of data collection, data discussion, scope of the study, sample and case studies selection, analytical framework and methods of analysis are discussed in this chapter.

In this chapter, a researcher began the chapter with the philosophy used in this research to demonstrate an understanding of the exploratory study of the coffee supply chain in Thailand by using interpretive approach. This was to provide a guideline to understand the real life processes, whilst taking place within the time frame that this research was conducted. The data analysis part was also discussed and the summary of methodology used in this research was also provided.

3.2 Philosophy of the Method

A qualitative approach is used to understand the local intermediary to understand their supply chain and how they sustain their businesses with an increasing competition faced by them (Miles & Huberman 1994; Silverman 2009). A set of semi-structured questions was used in the interview to gain more insight of how they

managed their own supply chain. Due to the limited sources information in secondary data and the written data, hence semi-structured questions were used and asked business operators during interviews to understand in-depth in details. The researcher used the information provided by respondents from the interviews to understand and map out the supply chain framework. The qualitative data collection was planned and collected in order to achieve objectives of this study.

3.2.1 Qualitative method

A qualitative research refers to studies that investigate social science problems that were conducted in a natural setting and builds a whole complex representation by a rich description and explanation as well as to inform words and views (Creswell 2008). Also, qualitative research is an investigation method that employed in many different academic disciplines typically obvious in the social sciences research. In addition, qualitative method is extensively used in market research and further contexts. This research aims to gather an in-depth understanding of OTE factors on the coffee supply chain management in Thailand. The qualitative method investigates the “why” and “how” of decision making in an organisation and not just “what”, “where”, “when” (Silverman 2009). However, the number of samples used in a qualitative research is smaller but focused samples are more often used than large samples. Also, qualitative methods produce information only on the particular cases studied and any more general conclusions.

3.2.2 Exploratory

This research used an exploratory approach because there were only little studies in Thai coffee supply chain and applied with the work system theory and the OTE framework, especially in Thai organisations. Babbie (2012) explains that the four most common and useful purposes in social work research are exploration, description, explanation, and evaluation. In exploration, the purpose is to examine new interests, to study new topics, to seek to test the feasibility of an undertaking a more careful study or to develop methods to be used in a more careful study (Babbie 2012). Exploratory research is conducted for a problem that has not been clearly

defined and exploratory research helps determine the best research design, data collection method and selection of subjects.

Exploratory research often relies on secondary research such as reviewing available literature and or data, or qualitative approaches such as informal discussions with consumers, employees, management or competitors, and more formal approaches through in-depth interviews, focus groups, projective methods, case studies or pilot studies.

When the purpose of research is to gain familiarity with a phenomenon or acquire new insight into it in order to formulate a more precise problem or develop hypothesis, the exploratory studies come in handy. Results gains from exploratory research are not usually useful for decision-making by themselves, but they can provide significant insight into a given situation (Neuman 2007). Exploratory research is not typically generalisable to the population at large.

Neuman (2007) claims that the aim of exploratory research tends to serve the researchers' need to discover new areas of study; to become familiar with the basic facts, settings, and concerns related to that area; and to create a general picture of conditions as well as to serve the researcher to achieve a better understanding of the topic overall.

The outcome of exploratory study in this research were to understand factors that impacts on the coffee supply chain as well as processes and activities under this study. The research also aimed to study whether these factors studied in this research were generalised.

3.2.3 Comparison of the qualitative and quantitative

Qualitative research more generally refers to a study that investigates a social human problem where the researcher conducts the study in a natural setting and builds a whole complex representation by rich description and explanation (Creswell 2012). Qualitative methods focus primarily on the kind of evidence and that enable researchers to understand the meaning of what is going on. The researcher can gain an understanding of the natural settings from the participants' point-of-view. The point-of-view of the participants provides deeper insights of information. Qualitative methods enable the researcher to carry out an investigation where other methods are

not justifiable, little is known about the study, to explore complexity, and view the case from the inside-out (Silverman 2009).

In qualitative research design, the use of theory is less clear than in quantitative designs. Creswell (2012) claims that the 'qualitative study is defined as an inquiry process of understanding a social or human problem, based on building a complex, holistic picture, formed with words, reporting detailed views of informants, and conducted with a natural setting'. Qualitative data collection provides the opportunity to approach research participants in person by the researcher and make a preliminary characterisation of the situation in the field. In addition, qualitative research more generally refers to a study that investigates a social human problem where the researcher conducts the study in a natural setting and bridge a complex representation by rich description and explanation (Creswell 2012). By visiting the participants at their sites enabled researcher to develop the level of detail about the individual participant or place to be highly involved in the actual experience.

Quantitative research refers to a use of systematic empirical investigation by applying numerical, statistical, mathematical or computational techniques (Creswell 2012). The objective of quantitative research is to develop and employ mathematical models, theories and hypotheses testing. The process of measurement is central to quantitative research because it provides the fundamental connection between empirical observation and mathematical expression of quantitative relationships. Quantitative data is any data that is in numerical form such as statistics or percentages that explain by numbers. The data collection method differs as narrow question is ask and collects a sample of numerical data from participants to answer the question. The researcher relies on the numbers yield an unbiased result that can be generalised to some larger population. Table 3.1 describes different characteristics of qualitative and quantitative approaches to guide the researcher to understand their characteristics and assumptions of each paradigm.

Table 3.1 A Comparison between Qualitative and Quantitative Approaches

Qualitative	Quantitative	Assumptions
Participant knowledge	Survey	Use of philosophical assumptions and employ of strategies of enquiries
Real time experience	Experiments	
Interpretative		
Case study		
Narrative		
Researcher interacts with that being researched	Researcher is independent from that being research	Epistemological Assumption
Reality is subjective and multiple as seen by participants in a study	Reality is objective and singular, apart from the researcher	Ontological Assumption
Inductive process	Deductive process	Methodological assumption
Mutual simultaneous shaping of factors	Cause and effect	
Emerging design – categories identified during research process	Static design – categories isolated before study	
Context bound	Context free	
Patterns, theories developed for understanding	Generalisations leading to a prediction, explanation and understanding	
Accurate and reliable through verification		Rhetorical Assumption
Informal	Formal	
Evolving decisions	Definitions are determine	
Personal voice	Impersonal voice	
Accepted qualitative words	Use of accepted quantitative words	

Source Adapted from Creswell (2007)

However, the qualitative paradigm is termed traditional, positivist, experimental, or empiricist (Creswell 2007) whilst quantitative paradigm views and expresses meaning of its approach by using numbers such as means, standard

deviations, and statistical coefficients (Neuman 2006). Also, a quantitative paradigm is an inquiry into a social problem, which based on testing a theory from variables studied in each research. Then, variables are measured with numbers and they are also analysed with statistical procedures (Creswell 2007). However, qualitative could be conducted in different approach and the interpretive is one of qualitative approaches, which was chosen to use in this research. In the qualitative approach, the researcher could gain knowledge in a narrow view and understand the nature of phenomenon from participants' point-of-view.

In this research, researcher's objective is to understand the perception of OTE factors that lead to perception of supply chain management in the local coffee industry. Therefore, in understanding the OTE factors from business owners are to interact and interview them in person in which qualitative method is adopted for this research.

3.2.4 Interpretive

This research used an interpretive because the researcher could view the research towards a different outlook. Traditional interpretivists guided researchers to view research towards a different outlook, whilst to be able to test theories in a narrow sense rather than to develop a theory (Gregor 2006). An interpretative research method approach search for multiple interpretations and a deep understanding that gather from the interviews (Creswell 2012). Some of the data at time are conflict each other and therefore the process is an on-going process as it aim of interpreting the data collected. Interpretive phenomenology uses the researcher as the data collection instrument and takes a self-conscious approach to research.

As part of an iterative process of data collection and analysis with initial theories being expanded, revised or abandoned. There are three stages of interpretive phenomenology process, which are 1) fore-understanding 2) interrogation and 3) reflection (Laverty 2008). The first stage was important to researcher as it was at least the researcher had an understanding or some knowledge over the questions or enquiries of the research. After the first stage was explored, the second stage was about the ability of the researcher to interpret and analyse information. Finally, the finally stage was about how researcher could share ideas over the phenomenon.

The interpretive approach was selected in this research as the research was designed to understand the real life experience and passion through the meanings that people attached to their business activities. The interpretive approach is appropriate for this research because the nature of this study and data collection requires substantive information and development of textual data. However, in this study, data was collected through interviews and observations from participants that permitted the researcher with their consents to be partial involved in this research. The researcher spent time with the business owners to interview them and collect information from them. The emphasis of this study is focused on the relationship of organisational, technological, and environmental factors that contribute to perceptions of supply chain management in the local coffee industry.

3.3 Preliminary Study

At the initial stage of this research, the researcher approached the local intermediary. A to visit them at their premises and asked them with some queries about their business operations. In generally, they had been in the industry for 8 years. Their business first established in 2005 in Mae Sai, which was located in the northern region of Thailand. During the first 3 years of establishment, the business relied heavily on the suppliers to supply coffee beans to their business. They and expanded their business afterwards by having their own roasting facility. They sourced raw green beans directly from the hill tribes as their business and roasting location were located near by the source. Currently they had their own outlet to supply and they also supplied the coffee beans to some restaurants as well as kiosks around Chiang Rai province.

Due to price volatility in coffee, the price has led to increase of coffee price by their supplier. The business owners invested new technology such as roasting machine and had their own roasting facility. With this technology adoption, they were more in control of their supply chain for the beans although they did not have the contract farming in place. This showed that they were proactive in managing the risk of sourcing for coffee beans and roasting as it was the core and one of the critical

success factors for a coffee supply chain. Besides, managing risks along the supply chain, they reduced costs, increased efficiency and roasting quality as they do not rely on other suppliers for roasted beans, and open up another business opportunity. They had transformed into a small sized of business operations by roasting the beans and supplied to other outlets such as kiosk, café, restaurants and also their own outlet.

Subsequently, snowball sampling method is used to contact the bigger players in the coffee supply chain. This method was applied which intended to tap into the networking based that are currently available. By definition, it is a method used to obtain data and knowledge for research from extended associations, through previous networks that links closely to the coffee business (Atkinson & Flint 2001).

This enables the researcher to retrieve more information from the primary contact to access hidden or difficult to reach population that refers to the “Hill tribe”. Thus, this strategy led the researcher and more accurate information. Besides, the companies that were presented later on in case study had worked closely with the “Hill Tribe” community for the cultivation of the coffee beans. Another reason of supporting the use of snowball sampling is due to the fact that the researcher is a foreign student and the approaches to the local companies, where English was not used at their business premises, for data collection directly were difficult compare to an introduction from local business owner that already worked or are their customers.

3.4 Interview Process

Prior to the data collection process at the field work, a thorough review of secondary information was undertaken with a preliminary exploratory interview and discussion. It consisted of the review of related literature and previous studies. This stage provided information and assisted in contacting key informants.

Amongst the tools that seek to understand factors that could lead to an improved business performance that the researcher could deploy to assess, interview and observations were tools, which could be determined the current practice and develop qualitative description of what occurs “in reality” in recent research. Therefore, the technique used for gathering data in this research was semi-structured

interview, which the technique of semi-structured interview offers researchers the flexibility to inquire into a detailed contextual issue of the business characteristics and the industry.

At the beginning of interview, the researcher started each interview through formal interview with no direct involvement to participants. Interviews were carried out successfully after five minutes of each interview as the researcher attempted to make participants feel more comfortable and answer questions freely and with no pressure. The semi-structured interviews aimed to gather the information on how supply chain management are apply, with reference to local producer coping with vast and fast transformation in Thai coffee industry (Chotruangpraserta et al. 2009). The objective of in-depth interviews was to determine the roles of local producer in the coffee industry and integrating their business with supply chains (Blowfield 2003). The interviews explored the supply chain management of the local producer in organisational context, technological context and environmental context, as well as their current and future plans and limitations.

Furthermore, this study adopted the OTE framework that focused on organizational relationships, technological benefits and environmental structure that shaped the supply chain management emphasis. Therefore, this study aimed to investigate an understanding of the characteristics of this relationship. Thus, this study consisted of interviewing main key actors in the case study and these main key actors were interviewed by using semi-structured questionnaires to gather information about their organisational relationships, technological benefits and environmental structure, respectively. The main information to be gathered was the current situation and possible future issues that might face by local producers in the coffee industry.

These interviews helped identify the nature and role of local intermediary in the coffee supply chain management. They also provided the information about market opportunities and threats, which the constraints faced by local producer in the coffee supply chain and perceptions of key success factors by the coffee local producer. Interviews were conducted in Thai and also English. The interview in Thai then was transcribed to English for interpretation. Whilst some participants could speak little English, the researcher had to use a translator to help ease the process of interview to ensure all interviews had no difficulty and completed successfully.

Formal letters and e-mails were also generated in order to show the validity and purposes for this research to the selected organisation.

Firstly, the researcher approached the local producer in Mae Sai and expressed the interest in the coffee supply chain. From the preliminary study, Mr. T provided an overview of the coffee supply chain and Mr. T also has business dealing with Company I. From there, Mr. T contacted the owner of Company I for an informal meeting with the researcher. The participants were cooperated and helpful. The researcher travelled to Company I to introduce and express interest in interviewing. At first, the Company I was reserved and question the researcher on the study. Company I raise this issue due to the competition rising in this business. The researcher explained and showed verification of student identity and explained this was a part of research. It took about three weeks for the process that the Company I finally agreed and an appointment was set up for a formal interview.

As for Company II, the researcher gathered the contact information through company website. The researcher continued the research process by requesting for an interview with the company in the list that the researcher prior listed up, and the approval took about a month through phone call, e-mails and to certain extent fax was also being used. Prior getting the approval from Company II, the contact person from Company II was worried about the interview as the owner has limitation in speaking English and also advice researcher to bring an interpreter in order to gain more understanding. Due to the tight schedule of the business owner, Mr. N also provided a contact to assist the researcher for future questions and verification.

For the third interview with Company III, the researcher initially visited the premise to meet up with the business owner and also expressed an interest in interviewing about the coffee supply chain in his company. Then it was followed up by sending an e-mail requesting an interview and possible phone calls in the future for some queries. In the e-mail, the researcher stated an introduction and a brief discussion about the interview content and to ensure this e-mail content was valid, the researcher also carbon copy the e-mail to researcher's main and co supervisors for this research. Afterwards, the interviewees were interview by using semi-structured questions that were specifically designed for the coffee business in the Thai context.

Table 3.2 A list of People who were Approached for Interviews and Appointments for Interviews were Arranged

Date	Name	Description
8/11/2012	Mr. LB Business owner	Company I
14/11/2012	Mr. N Business owner	Company II
22/8/2013	Mr. D Business owner	Company III

The researcher visited interviewees on their premises to demonstrate the researcher's enthusiasm to collect information from them as well as make it convenient for the interviewee. Before interviews were conducted, each interviewee was asked permission and brief for the interview to be audio-recorded. Notes were taken during the interview by the researcher and were then verified by the interviewee for accuracy. Each interview lasted between one hour to one hour and a half. Interviews were conducted in locations that were flexible and comfortable for interviewees. They were comfortable and relaxing at each interview and they were not forced to answer questions. Each interviewees provided extra contact person to assist the researcher for future reference and because each business owner had their work busy schedule. Table 3.3 describes the contact persons to further assist the researcher if there is further enquiries and verification.

Table 3.3 A summary of Extra Contact Person for Future Reference

Name	Position/Relation	Company
Mr. S	Owner's son	Company I
Mr. A	Operation Manager	Company II
Mrs. D	Owner's wife	Company III

The interview was a case study because this research accepted and encouraged multiple methods of data collection procedures and it also provided a deeper understanding from the local producers (Hartley 2004; Yin 2008). Thus, a case study could be defined as a research strategy, an empirical inquiry that investigates a phenomenon within its real-life context as it is descriptive or explanatory to explore the linkages in order to find underlying principles (Baxter & Jack 2008). According to Thomas (2010), case studies are analyses of persons, events, decisions, periods, projects, policies, institutions, or other systems that are studied holistically by one or more methods. The case that is the subject of the inquiry will be an instance of a class of phenomena that provides an analytical frame an object within which the study is conducted and which the case illuminates and explicates (Thomas 2010).

In the study, the preliminary exploratory study phase was carried out between July 2012 and October 2012, consisting general interviews and discussion with café and coffee enthusiasts. The objectives of the interviews and discussion were to gather information on the key actors, their experiences and to understand the operation of the coffee supply chain in Thailand.

The researcher also used observations as another research tool to obtain data from the coffee businesses in the coffee industry cluster in Thailand. The researcher observed the operations at their premises with their permissions. Different organisation had different characteristics and they operate their businesses in different direction based on their management styles. However, the researcher observed their work process at one end spectrum as a 'neutral' observer.

In this research, the researcher evaluate the supply chain of coffee industry cluster in Thailand into three different phases' which were 1) a review of literature to

understand basic information about coffee businesses and environment of coffee industry cluster and the preliminary study to obtain basic information of the industry 2) interviews with participants to understand them and businesses in details and 3) the summary of the first two phases. In phase one, the researcher used the generalisation from literature review to develop a foundation knowledge and create understanding of factors that lead to business performance in the coffee industry cluster in Thailand. In phase two, the researcher dealt directly with the participants in the research. The process involved with interviews. Questions focused on factors that could lead to improved business, development of work process, and efficiency of the business in the coffee supply chain in Thailand. Patton (2002, p. 341) claims that “the purpose of interviewing, then, is to allow us to enter the other person’s perspective”. Therefore, this process was to generate an understanding of the business, their businesses’ characteristics, and perspectives of the business owners into their business operations. In the final phase, he process of uncovering important factors that could lead to business success and improvement.

Information derived from this research can be used as an idea generator tool in order to provide first-hand experience in observing and hearing their perceptions of coffee supply chains, which were used as the basis to design the questions. This research continues to case study and the researcher interviews participating companies, which was carried out between November 2012 and September 2013.

3.5 Data Analysis

In the analytical part, information was analysed and formed into stories relating with factors that were focused and studied as major factors that lead to business performance of coffee businesses in the coffee supply chain in the Thai context. In general, data analysis is the process of converting a set of gather raw information into its category and linking the theory and analysis. It also helped researcher to summarise the large amount of data and to understand the effects of a number of variables on final outcome. The process of data analysis in qualitative data is not converting them into numerical format. Babbie (2012) discusses that

“qualitative analysis is non-numerical examination and interpretation of observations, for the purpose of discovering underlying meanings and patterns of relationship”. In this data analysis process, the researcher summarise the gathered amount of information and categorised it to certain patterns or themes and then interpreted by linking the theories and reviews that has previously done. Also, data analysis requires that the researcher be comfortable with developing categories and making comparisons and contrasts (Chamber 2011; Creswell 2008; Dejsakulrit 2013; Mingmalairaks 2011).

Non-probability sampling was adopted due to small amount of local producer in the industry. Sampling stages is divided into two sections which is snowball method and purposive sampling. Firstly, snowball sampling was used in the preliminary study to find out the general overview of the local coffee industry. Besides, Chiang Rai is well-known for its cultivation of coffee. Therefore, researcher has spoken to few coffee shop owners around university campus and off campus. In addition, researcher also observed that there are many local coffee chains around the city of Chiang Rai. Due to limitation of Thai and local language ability of the researcher and is the preferred language in an interview, this lead to the use of non-probability sampling as the main factor. Table below summarised the overview of data analysis:

Table 3.4 Summary of Importance of Data Analysis

Purpose	Function
Data Display	Organised assembly of information that permits conclusions drawing.
Data Reduction	Selecting, focusing, simplifying, abstracting and transforming raw data.
Conclusion/Verification	To decide what things means, noting regularities, patterns, explanations, configurations, causal flows and suggestions. Testing the conclusions for their validity and reliability.

Table 3.4 explains the three main purposed importance of data analysis with proper steps. These steps which are data display, data reduction and conclusion and verification will play a significant role of transparency of data and focuses on the research scope. Therefore, data analysis in a qualitative research is of vital important to details and is taken into consideration of the researcher.

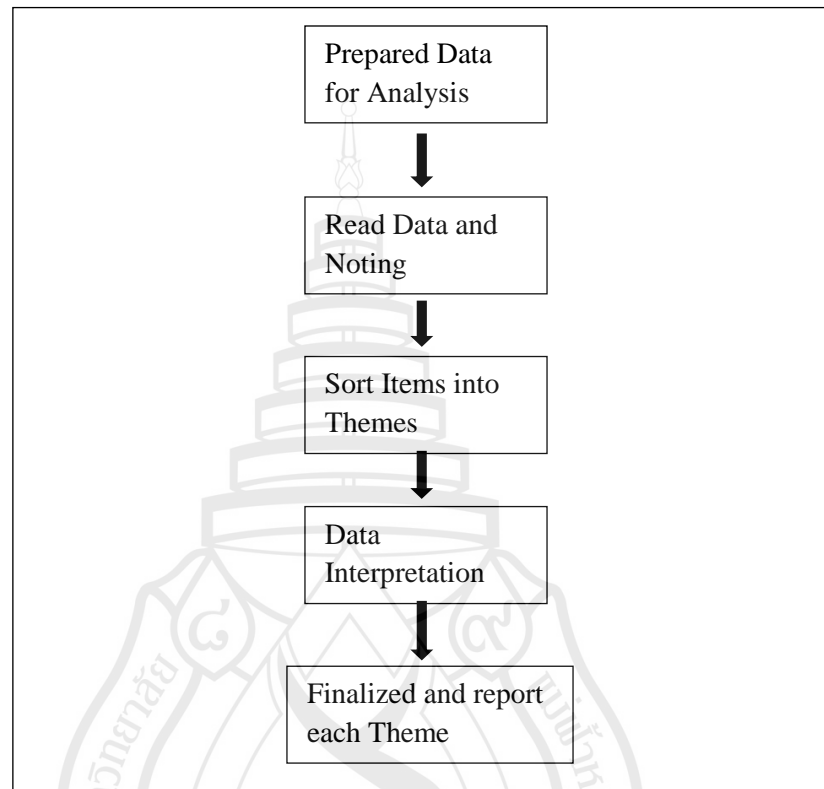
3.5.1 Thematic Analysis

According to the interviews, data that was digitally recorded were transcribed into text in Thai as most participants spoke in Thai. The researcher used translators to ensure the validity of questions and to ensure that information was in the right track. The translators ensure with the researcher by making on-spot translations with the participants. However, the text in Thai was translated into English to ease the process for the researcher to read and compare with own personal note when conducting interviews to see if they were matched. Thematic analysis is a conventional practice in qualitative research which includes familiarizing through data to identify any repeated patterns and linked categories carrying similar meanings and usually emerged through the inductive analytic process which characterises the qualitative paradigm (Ritchie & Spencer 2002).

The research chose thematic analysis to group data into theme and to ensure accuracy of the information. The researcher read information again and again to ensure that the information derived during interview process were on the right track and accurate and to ensure reliability of questions used for interviews. However, themes, patterns, understandings, and insights that emerge from fieldwork and subsequent analysis are the fruit of qualitative inquiries (Dejsakulrit 2013; Mingmalairaks 2011; Patton 2002). The exploratory power of this popular technique can be enhanced by the analyst lacking previous knowledge of the research topic as they are not guided by any preconceptions. Thus, the researcher does not have to be an expert in the research topic.

In this study, the themes of major factors that affected the decision to make changes to organisation of the company will put into a matrix. By doing so the data will provided the researcher with the opportunity to link the specific factors that

affected the decisions to make changes. It also allowed the researcher to identify the significant importance of each factor for each of the theme.



Source Adapted from Creswell (2009)

Figure 3.1 Thematic Process

In this section, researcher gathered data by using semi-structure interview question as a guideline in order to build up the topics discuss. Voice recordings were recorded during the process of interview to capture the information so that researcher can refer afterwards. With these data's, researcher rewrite the voice recordings into written materials. Data were then were cross check with the interview recording again to gain consistency. Next step were sorting the interview into the themes or topics that were discussed during interview. This is followed by interpreting the data according

to the themes, which serves as a guideline to answer the research questions. Finally, all themes were table out for references.

3.5.2 Case Study

In order to understand the organisational, technology and environment contexts in supply chain risk management (Tornatzky et al. 1983; Tornatzky & Fleischer 1990), case studies were used in this study (Yin 2008). Case study accept and encourage multiple methods of data collection procedures and it also provide a deeper understanding from the local producers (Hartley 2004; Yin 2008). Yin (2008) suggests that researchers who adopt case studies would find their findings challenged. Furthermore, Yin (2008) also suggests that the case selection criteria which a single case can serve as an example:

- a) if it forms an extreme or unique case
- b) if it forms a typical or a representative case, standing as an example of a bigger group case
- c) if it is a revelatory case, where the researcher has an opportunity to observe and analysed a phenomenon so far inaccessible to scientific investigation
- d) if it provides a longitudinal case studying two or more points in time
- e) if it stands as a pilot in a multi case setting

Yin (2008) claims that case study do not provide statistical generalisation and the number of case studies are not relevant for statistical generalisation. However, if researchers adopted a case study and interpreted information with misunderstanding, the study could be led to a wrong direction and unjustifiable criticisms of case study based paper (Andrade 2009). In order to get more accurate and refine primary data, interview was being done to the core person in the company or business. Therefore, case studies were appropriate to this study because also focussed on attitudes and behaviours of participants within their settings (Andrade 2009; Yin 2008). Thus, by doing this, the reliability of the data is proven.

This research employed a narrative method as a methodology tool because a narrative is a promising approach for gaining an in-depth understanding of people's live (Riessman & Quinney 2005; Mingmalairaks 2011). This research followed the

concept of narrative approach and tried to gain in-depth knowledge and understanding of the participants that were interviewed in this research. Each participant constructs stories of experience and their organisation. Therefore, the narrative analysis is the process of telling stories from participants and the researcher listened to their experience they had in the past, then made moral points in the telling stories from participants (Riessman 2003)

In this view, narrative thinking was generated from participants and the analysis report was considered as the narrative story (Mingmalairaks 2011). In this research, the researcher used analytical technique of taking the literature and applied to the collected data, then made the analysis from derived data from the data collection process. The validity and reliability of data is explained in section 3.6.

3.6 Validity and Reliability of Data

Validity of data is an important issue that needs to be taken into account when analysing qualitative research. According to Maxwell (2012), the most significant threats to the validity of qualitative data is an inaccurate and incomplete data. In addition, Maxwell (2012) believed that the researcher must attempt to systematically understand the participant ways of thinking which can be done by paying continuous attention to any differences in the data and considering alternative explanations of the phenomena being studied. Moreover, interviewers' bias needs to be taken into account when conducting qualitative research. For that reason, the interviews are voice-recorded, and later as transcribed.

There are two forms of validity in the case study, which are internal and external validities (Babbie 2007). According to the internal validity, the researcher interviewed three coffee business owners. Therefore, three cases were analysed. In external validity, the pragmatic people claimed that they seek dimensions to maximise external validity to ensure that results of the study can be generalised. In this study, the researcher therefore used theories and previous studies that provide extensive knowledge to compare with findings and results from interviews (Godwin et al. 2003; Mingmalairaks 2011). In summary, external validity arises from the ability of the

researcher to crosscheck information provided by participants in the interviews (Mingmalairaks 2011).

Since the narrative research was the study of the story, each participant that participated in this research told stories in this research. The participants told their stories about themselves and their businesses as well as their perception on the coffee industry cluster. Narrative research undertakes their inquiries to have something to say to their readers about the human condition. Applying protocols on a study of research is acceptable evidence and appropriate analysis to the other community's research approaches the issue of validity of information derived from the data collection process.

The researcher attempted to familiarise himself with the participants, and speak with each participant in the terminology that each participant would be familiar with, such as coffee process, information and organisational culture. Interviews were conducted at their premises and at their convenience. The environment for interviews was comfortable and the participants felt relaxed and comfortable to participate in interviews.

3.7 Supply Chain Mapping

Figure 3.2 below explain 9 steps work flow, the combination of understanding the supply chain approaches that describing the sequence of efforts needed to construct a viable and representative supply chain map for the selected case studies (Miles & Huberman 1994). A flow chart illustrating the overall procedure is described in Figure 3.2.

Phase I Establish preliminary understanding of sector

Step 1:	Product selection
Step 2:	Review of existing literature & data
Step 3:	Preliminary interviews & fieldwork
Step 4:	Identification key issues & questionnaire design
Step 5:	Drawing of preliminary map

Phase II Refine mapping and sector understanding

Step 6:	Fieldwork revisit: interview of chain actors
Step 7:	Visiting of physical facilities & institutions
Step 8:	Quantification and refinement of map
Step 9:	Re-assessment of results by actors and map finalisation

Source Adapted from World Bank’s online “Guide to Developing Agricultural Markets and Agro-enterprises”, Van Roekel et al (2002)

Figure 3.2 Work Flow for Supply Chain Mapping and Sector Analysis

Figure 3.2 provides the steps of value chain analysis work plan which help to addresses the following issues:

- 1) Mapping supply chains
- 2) Adding critical information to the map
- 3) Critical success factors supply chain management in the chain

This analysis helps the researcher to understand the pattern and characteristics supply chain of the companies. This will gain better insight of the business industry structure, internal and external relationships, industry competitiveness, role of supply chain management with forces and trends in this particular industry. In addition, it is important that this research adopted the OTE framework which will view the influence of organisational, technological and environmental context in the supply chain management perception to be competitive advantage in Thai coffee industry.

3.8 Summary

This chapter outlined the research methodology and tools utilised in this research. A qualitative approach was adopted within a context of coffee industry cluster in Thailand because qualitative research can provide a rich meaning and lead to a complete understanding of the research being conducted, in this study in supply chain management perspective. The practical experience from the participants explained in different aspects contributed to an understanding of processes and practices that applied in their business.

Data was coded into different themes focused on organisation, technology and environment context to best suit the appropriate unit of analysis (Miles & Huberman 1994). Data was analysed using a combination of thematic approach and narrative analysis because the information focus on the expression and explanation of business owners. In the analytical part, the researcher digitally recorded interviews, carefully transcribed each interview into documents, and translated them into meaningful academic information. The analysis process was coded into many categories and developed into themes.

The following chapter discusses data findings that relevant to the context of Thai coffee industry cluster and factors that influence them to improved business performance in the coffee industry.

CHAPTER 4

DATA ANALYSIS

4.1 Introduction

This chapter reports on information provided by main actors of coffee supply chain, which are individual producers (Ponte 2002). This section discusses on the perceptions of organisational context, technological context and environmental context from interviews and data collection. Initially, this chapter starts with reports on the establishment and background of each company, years of involvement in the local coffee industry, and their experience in the industry. Later, discussions on the findings related on OTE framework adopted to understand the perception of importance of Supply Chain Management.

4.2 Background of the Companies

This research involves analysis of the narratives gathered from interviews with owners of three local producers in the northern part of Thailand. Each business owner discussed that their business operations and their experience of change in the organisational context, technological context and environmental context. The discussion continued by looking at supply chain management that they have in practice and the impact to their supply chain and its industry. Their years of involvement, experience and knowledge in the industry contributed to their understanding of characteristics and environment in the industry. Moreover their experiences in the industry and the knowledge in transition period of the growing coffee industry in Thailand provided them substantial capability to gain more

competence in the coffee industry in Thailand. Each business owner and their business titles were pseudonym in this study to keep their real identity confidential. Also, business owners asked that names of individuals and organisations that gather during the interview were not included in the translation of the interviews from Thai to English.

4.2.1 Company I

Company I was a family business and it was established in the year 1993 in the northern of Thailand. The Company I started their business as a grower but later evolved in different roles along the supply chain. Mr. LB knew about the coffee when the Agriculture technical officer approached the local area in the northern part of Thailand, intervened the agri-business, and introduced coffee tree to farmers. The technical officer from the Royal Thai government introduced that coffee products could help them to generate more income. Mr. LB started growing the coffee tree by invested in growing 4,000 trees on 16,000 square meters. The time spent nurtured was almost three years but the growing process near the harvesting process was a problem because the area used in planting coffee was in the forest area, which occasionally forest fire occurs in the dry season and this caused trees to destroyed.

At this point Mr. LB took his steps into a change to survive his business. At the beginning of business, Mr. LB started his business as the middlemen by collecting the coffee beans product from famers and sold them to merchants in Bangkok. His business was successful and could make appropriate profit. Mr. LB then invested in grinding and milling machine afterwards and also accepted cherry as their products as well. After 5 years of business operations, the business expanded and became the buying and transforming center. In the past, Mr. LB used to drive from place to place buying the coffee beans. At present, the Company I has many networks in many provinces such as Chiang Mai, Chiang Rai, Payao and Lampang. The Arabica was the major coffee beans products at the Company I. The buying process included the agent stationed in planting areas. The Company I had expanded for the last 8 years where Mr. LB mentioned that their products were popular in coffee drinking categories and there products increased demand of coffee consumption. The Company I also supplied the coffee beans to several established companies.

4.2.2 Company II

Mr. N was from a different background and got involved in coffee industry after the 1997, economic crisis in Thailand. His senior relative introduced him the coffee industry and explained that there was a great opportunity in this industry. Mr. N observed and studied information about the coffee industry afterwards. He also checked the area and learned that his relative was right about the business opportunity. Mr. N learned that coffee planters are the hill tribe people. They grew coffee but did not have the market initially. Moreover, coffee business was not booming but there was a big opportunity to be the leader of the industry at that time. Mr. N went and learned about coffee planting and spent about a year before he started his first coffee shop. Mr. N spent time to learn and observe the bean to cup process in the coffee industry. He established the Company II afterward, which located and operated in Chiang Mai province. Mr. N also explained that understanding the coffee industry need to be from the beginning of coffee bean and along the supply chain process until delivered the final products to customers. Company I sourced their own beans and they had its own coffee chain.

4.2.3 Company III

The Company III was a single owner company, which had worked with an established company in the coffee research and development. Mr. D worked with the R&D farm and also worked with the hill tribes that also learned from development. The processes that were undertaken the research center started from the seedling, planting and harvesting. They studied everything about the coffee and had appropriate knowledge on growing high quality coffee beans. Mr. D explained about his passions for coffee and his passions motivated him to venturing a business in the coffee industry. The Company III was established in the year 2003, which operated in Chiang Rai province. Company SC selected coffee beans by hands and only selected perfect beans, which were pale grey green translucent color, large size to be roasted at the optimum temperature, and determined by the coffee specialist. Because roasting requires a careful control process, this process was undertaken by specialist and it did not performed by the growers on the estate. Of the utmost importance was to ensure

the low level of moisture content on the coffee beans before roasting and this process only took place at the factory.

4.2.4 Summary of the Role from Each Company

Table 4.1 summarised the role of the companies along the supply chain. Findings from the interview reveal that, local producer hold more than a role along the coffee supply chain is similar to vertical integration that was reviewed in chapter 2.

Table 4.1 Role along the Supply Chain

Company	Role	Remarks
I	Coffee Bean Supplier	Own farm (small
	Roaster	portion)
	Procure from hill tribe (no formal contract)	CSR
	Family business	Initiated a co-operative group
II	Roaster	Incentive program
	Supply to own Coffee Chain	CSR
	Procure from Hill tribe (no formal contract)	Setting up Fund Foundation
III	Coffee Bean Supplier	Incentive program
	Roaster	CSR
	Procure from hill tribe (no formal contract)	
	Single owner	

Local intermediary took initiative to move as close to the source of raw material to gain more control with the supply uncertainty. For example; Company I not only supply raw beans to its bulk customer but also have roasting machine to roast

its own blend which cater for coffee shop. Followed by Company II that started as a coffee shop owner, subsequently through expanding of the business, owner decided to integrate its supply chain by having own roasting facility to supply its own chain. Company III also revealed that they had the similar role, which was coffee beans supplier and roaster. Findings also showed that each company had their own set of competitive advantage that they leveraged on such as growers networking and signature recipes for their roasting.

4.1.5 Summary of the Interviewees from each Company

The table below demonstrates the interviewees that researcher engaged for further research arrangements.

Table 4.2 Interviewees

Company	Description	Main contact person
I	Owner – Key Person	Mr. N
II	Owner – Key Person	Mr. LB
III	Owner – Key Person	Mr. D

The researcher adopted semi-structured questions and case study to gain extensive information insight of coffee businesses that operated in the northern region of Thailand. To ensure that the researcher received substantive information, the researcher approached each organisation directly and also from the introduction of businesses in the coffee industry. Whilst, interviewees were business owners, each business owner also agreed that they would any further queries that the researcher might have afterward and could also assigned people who were knowledgeable about their business to answer additional questions in the future.

4.3 Organisational Context

In this context, business owners have provided various factors and they were considered as a rich source of information about the coffee industry in the northern of Thailand. They discussed numerous factors in their organisations that contribute to the successful operation and management of their companies. The organisational factors discussed at each interview with each business were organisation structure, organisation relationship and people. Organisation formation is the core of each business to ensure the long term survival and competitiveness of the business.

4.4 Technological Context

From interview with three businesses in the coffee industry at their premises, each business owner provided extensive information. Technology was view from their perception that they were in forms of tools or assistances to facilitate the production process and lead to quality products, increasing capacity and communication ability in their business. Communication devices included telephone and fax that could transmit information amongst employees and business owners. The technology played an important part as their business premises were located near the mountain. Technology was then used to ease the production process while achieving at quality level required by each company. On the other hand, machinery was used in each business to increase the quality of production and knowledge was required to understand nature of resources and produce products at quality level. Each company had to ensure their employees' capability to operate work efficiently and undertake jobs as required by business owners.

4.5 Environmental Context

In this context, the researcher discussed with business owners about the external factors that had influence on the coffee supply chain and management in the coffee industry. Several factors are highlighted such as information intensity and the competition intensity in the coffee industry in Thailand. Business owners were aware of obstacles and challenges of the business and industry to overcome in order to remain their business position and competitiveness. Business owners agreed similarly that environmental contexts were of vital for their consideration over business decision to be made. The negative impact could be eliminated if each company realised and understand the importance of environmental context and overcome their challenges effectively.

4.6 Strategic Adaptations and Importance of Supply Chain Management

The analysis of the evolution of the specialty coffee industry in Thailand allows the research to assess possible adaptation of business strategies for the coffee businesses. The strategy has to be prepared under long term goals, while taking into consideration their current capabilities. Also, organisational context emerged from each organisation through the process of variation, selection, and retention in the coffee industry. Whilst capabilities and routine jobs in the coffee industry developed through their established infrastructure, the coffee businesses set pattern of interactions amongst numerous organisational members, which is developed over time.

Table 4.3 demonstrates the discussion on aspects of business owners that perceived on supply chain management. This table summarises different approaches that were mitigated by each business owner in order to create their business opportunity along the supply chain and a long-term survival in the coffee industry.

Table 4.3 Highlights of Applied Strategy in SCM Aspect

Company	Supply Chain Management	Aspects
I	Launching E-Magazine	IT
	Flexibility in organisation	Relationship
II	Sourcing for machine to boost the quality of coffee	Machine Technology
III	Software program to manage	IT
	Training Program for employees	Organisation Development

Another form of organisational context was the complex configuration between their strategy, structure, and systems. Rather, any change to their overall strategy will have to encompass additional changes to their characteristics, structure and their management systems, culture, and employee skills of each organisation. These forms of organisational context are considered as individual characteristics, which is identical and difficult for their competitors to follow. This does not related to financial factor such as capital investment and possibility of immeasurable costs in and lost collaborations. Therefore, organisational context can be one of barriers to change and organisations have to adapt to both changes over the generic industry lifecycle and to technological change.

Product quality continued to improve throughout the marketplace, leading to industry standardisation and slower product development. Marketing focused more on advertising a broad product line, good service and packaging deals. Manufacturing and distribution faced some overcapacity along with lower labor skills due to an increased demand for high labor skills. Understanding these changes was the first step to establishing the capabilities necessary to formulate a proper strategy to compete the negative attributes associated with a maturing industry. These capabilities allowed a company to pursue a supply chain strategy. Appropriate strategy from these three businesses (Company I, II, and III) attempted to maintain an image of quality and enhance both effectiveness and efficiency.

Company I, II, and III discussed similarly that formulating a proper strategy to overcome the barriers to change present in an organisational context evolved with the industry structure. It involved identifying the existing routines and capabilities, the hierarchy structure, along with the power structure and identifying the ingrained perceptions of the business from an independent perspective.

4.7 SWOT Analysis

An understanding of the external forces and OTE framework conditions surrounding of coffee businesses led to a clear understanding of the relationship of the coffee businesses and their supply chain. An analysis of the internal organisational characteristics and external factors were necessary to learn a clearer view of the organisation's capabilities and position in the industry. An evaluation of the organisation's strengths and weaknesses as well as the opportunities and threats that coffee businesses in the coffee industry in Thailand also brought the researcher to be able to determine appropriate future actions for coffee businesses along their supply chain and possible changes in the future.

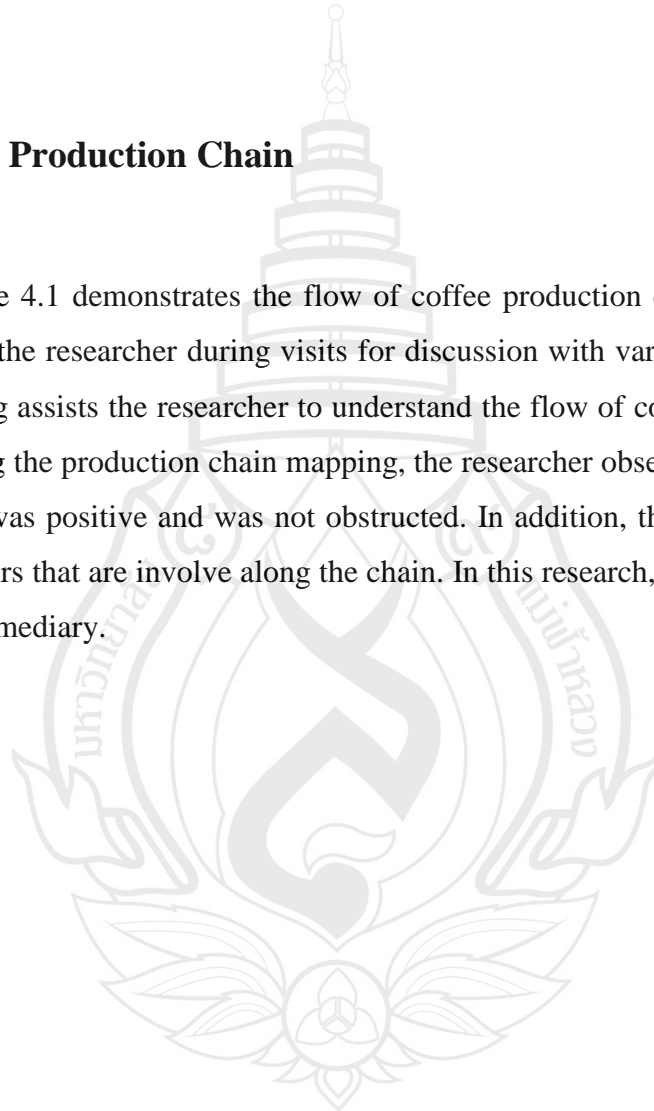
Table 4.4 SWOT Analysis

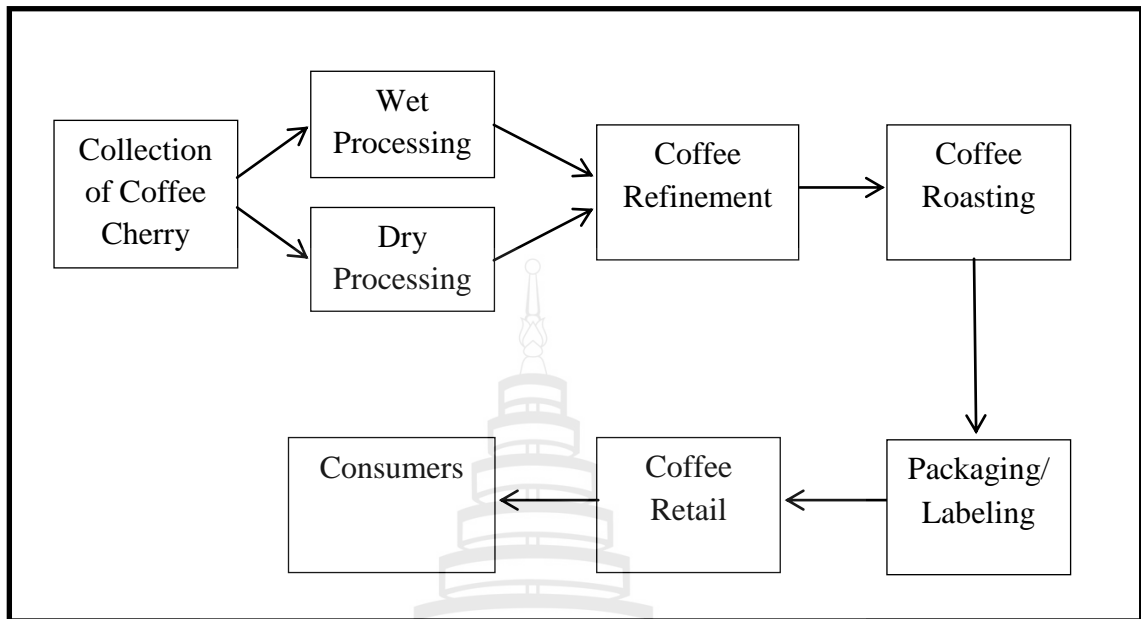
Strengths	Weaknesses
Access to quality raw materials	Capital Investment
Knowledge and Experience	Distribution Channel
	Supply capacity
Threats	Opportunities
Entry of New Competitors	Emerging Market
Economic Crisis	Distribution Channel
Coffee Price	
Plants Switching	

Table 4.4 summarised the analysis and also highlighted the industry potential that attract many ventures. Practices of the each company varies, the expectations of the strategy were being realised. The OTE perception of the supply chain management strategy was being seen to impact not only on the expectations of business owner to work closely and more effectively, but also on the relationships bonding in an organisation.

4.8 Coffee Production Chain

Figure 4.1 demonstrates the flow of coffee production chain mapping that is observed by the researcher during visits for discussion with various business owners. This mapping assists the researcher to understand the flow of coffee beans from bean to cup. Along the production chain mapping, the researcher observed that the mobility of the flow was positive and was not obstructed. In addition, this method also views the roles actors that are involve along the chain. In this research, the focus was on role of local intermediary.





Source Authors' own rendition

Figure 4.1 Production Chain Activity

4.8.1 Observation of Coffee Production Chain

In this section, images from the visits of the researcher to the various companies to understand the coffee supply chain business. Observation is part of the qualitative method that assists the researcher in deeper understanding of the research.

Image 4.1 Coffee bean at the consolidation centre of Company I



Image 4.1 shows the raw coffee beans are collected from growers. The coffee growers in the northern region of Thailand would collect coffee beans from coffee trees when the coffee beans were ready for pick up. Then the growers would bring their coffee bean products to the Company I. This happened as a routine in the harvesting season. These coffee beans were not sorted out at this stage. This was the consolidation centre for Company I.

Image 4.2 Pulping Machine at Company I



Image 4.2 shows researcher visiting the processing area in Company I. During that time was the off season of coffee harvesting, which led to no processing done. Besides, it showed the level of machine technology used in the company.

Image 4.3 Drying of Coffee Beans



Image 4.3 illustrates the coffee drying process that was practice by company I. When dried in the sun coffee was most often spread out on open area where it needs to be raked every six hours to promote even drying.

Image 4.4 Coffee Grading Machine



Image 4.4 illustrates the coffee grading machine that was used in Company III. Grading machine was used to grade quality beans by size. Grading of the beans was an important part as better grade would fetch better price.

Image 4.5 Manual Sorting



Image 4.5 illustrates manual sorting done in company I. The process was to sort out the broken beans and deformed color of the beans. This was to ensure there was consistency in the form coffee beans in order to fetch higher value.

Image 4.6 Bagging and Storage



Image 4.6 illustrates the bagging of the coffee beans that were ready to be delivered for consignments to customers for the coffee roasting beans process.

Image 4.7 Coffee Beans



Image 4.7 illustrates the coffee beans that were ready for roasting. These coffee beans were purchase by roasters for roasting.

Image 4.8 Coffee Roasting Machine in Company III



Image 4.8 illustrates the coffee roasting machine, which was used to roast coffee beans to perfection to cater to customers. The researcher was also informed that roasting was not depended all on the machines but required human skills to control and monitor the roasting process and finally the quality beans that were used along the process.

Image 4.9 Coffee Beans after Roasting



Image 4.9 illustrates the different type of roasting coffee. Different roasting coffee also fetched at different prices. Roasting created taste that meets different customers. Image 4.9 also illustrates the process of coffee beans product chain. These were the critical process in order to produce quality coffee. As previously discussed in terms of organisation, technology and environment contexts influenced the perception of the supply chain management along the supply chains; the process of the production was vital important quality of coffee beans to focus. In order to produce quality coffee beans, the link amongst the supply chain was aligned with the definition of the supply chain, which was not sufficiently strong if the link along the coffee supply chain was not well established. The interrelation amongst actors along the coffee supply chain were as important as the process of producing coffee beans and roasting coffee process until to cater coffee beans products according to the consumption demand in Thailand.

4.9 Perception of OTE Context in Supply Chain Management

In this section, the interviews explored and interpreted into categories according to the OTE framework as a guideline to gain a focus and accuracy of the interpretation of the data analysis. It was segregated into three sections, organisational, technological and environmental contexts, which reflect into themes or aspects that were being discussed and gathered from business coffee owners in the northern region of Thailand. In addition, this section would be discussed again in final chapter.

4.9.1 Organisational, Technological and Environmental Context of Company I

Figure 4.2 displays and highlights the perceptions of the business owner from the OTE perspectives towards performance of their coffee business operations. Firstly, organisational context was explored in terms of experience and knowledge, and network of the coffee business through their extensive experience. Mr. LB explained organisational factors in his business through several factors such as experience, knowledge and networks are the main area perceived important.

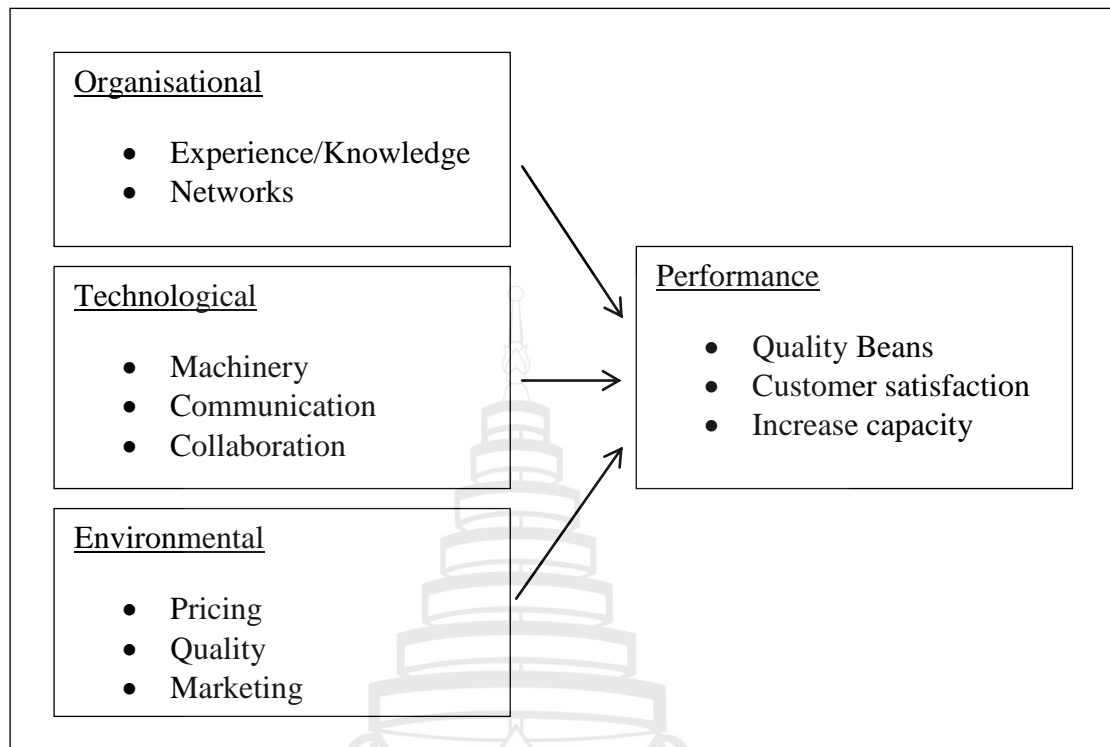


Figure 4.2 Company I

From the discussion with Mr LB, as stated the conversation Mr. LB elaborated that;

I established and entered the coffee business and industry firstly by growing coffee trees 20 years ago. I started with 4,000 trees in 16,000 square meters on my coffee business with my investment. The time spend nurtured were almost about three years. In the harvesting season, there were regular problems arisen because the area used in planting coffee trees had been the forest area, which occasionally had bush fire in the dry season and this had destroyed the trees. From this point Mr. LB shifted his business role from a planter to buyer. Mr. LB observed and provided reason that coffee planters should be better and he decided that he should buy coffee from coffee growers directly.

In this statement, the experience and coffee industry knowledge is vital important for the business owner as it provided a business guideline to an organisation into appropriate direction, inform strategy and guide through appropriate decision-making according to their extensive experience, which were about 20 years in the coffee industry.

Secondly, the technological context was explored and highlighted by Mr. LB that these technological factors used in the Company I were machinery, capacity, communication ability with customers, and collaboration with customers. These were major technological context found in the Company I. However, Mr. LB commented that:

In the past, hulling machine only available at a very few grower. With this few machine it leads to low standard.

In this statement, it shows that machines are important to improve standards and quality of the coffee beans. The machines could assist in the process of productions and ensure that products are met requirements of customers. Besides, machines could also help to increase the capacity of the output as explained by Mr LB that:

Changing the machine from the home made to standardise can reduce the labor cost and result in higher productivity.

According to the interview with Mr. LB, he further explained that there were still many opportunities to gain competitive advantage by investing machine technology into the business. In addition, Mr. LB mentioned that collaboration with his customers could also improve the drying process of coffee beans as the use of machine in their partnering company could contribute to better quality of heating technology for their coffee bean products.

...to improve the drying process is important. With the collaboration with the Company A, which is one of their business partner, the Company I had the drying coffee beans process by using the natural drying or they used the heat

from the sun to dry coffee beans half way through the drying process (about 50%) and then used machines to dry coffee beans, which was about other 50% of the heating process.

Whilst, collaboration with customer to increase the quality of coffee beans by using technology, Company I proved that they used machines as technology to improve their production process, especially the drying coffee beans process. With the application of the machines in their operational process and the production process, they could improve product quality such as good quality of coffee beans (not splintered or not broken beans), clean and dry storage, and rapid drying.

Finally, pricing, quality and marketing were included in the environmental contexts. The findings revealed that the Company I faced pricing as the competition in the coffee industry, which was competitive. Whilst the quality of the coffee bean was in concern in consumer' mind, the Company I had to deal with marketing issues to be able to sell coffee products in the market successfully. Mr. LB stated that;

Currently the main problem is in the marketing for our coffee beans. Whilst the orders of coffee beans are low, then the Company I will have problem in purchasing cost. At present, Company I encourages the registered growers to export their coffee beans product themselves but this is still considered to be a big challenge.

Marketing is one major problem faced by the local producers. This could lead to higher purchasing cost which has an effect on the overall pricing. Besides, there was none formal contract price set as the standard pricing is volatile. In this statement Mr. LB confirms the price volatility, which was commented that:

...no formal contracts, mostly we had verbal contract. We need to have a trust between our company and the customers. No formal contract due to price volatility. Even big companies do not operate business based on a contract. In our Company case, the situation is worst, the reason was that there is no cost standard and no traceability could be best achieved in Thailand.

In addition, Mr. LB mentioned that trust was one major factor that drives the business to move forward as most the contracts are performed verbally as required relationship management such as “guanxi” in Chinese culture. Business trust comes into place where the mutual understanding between seller and buyer is agreed upon, which requires time to build up trust between the two parties.

4.9.2 Organisational, Technological and Environmental Context of Company II

Figure 4.3 demonstrates an extensive experience by Mr. N, which was the owner of the Company II in relation with the OTE framework. Mr. N took time to learn the coffee industry from upstream suppliers till its final downstream consumers before he started his first coffee shop and subsequently expanded the business into a chain.

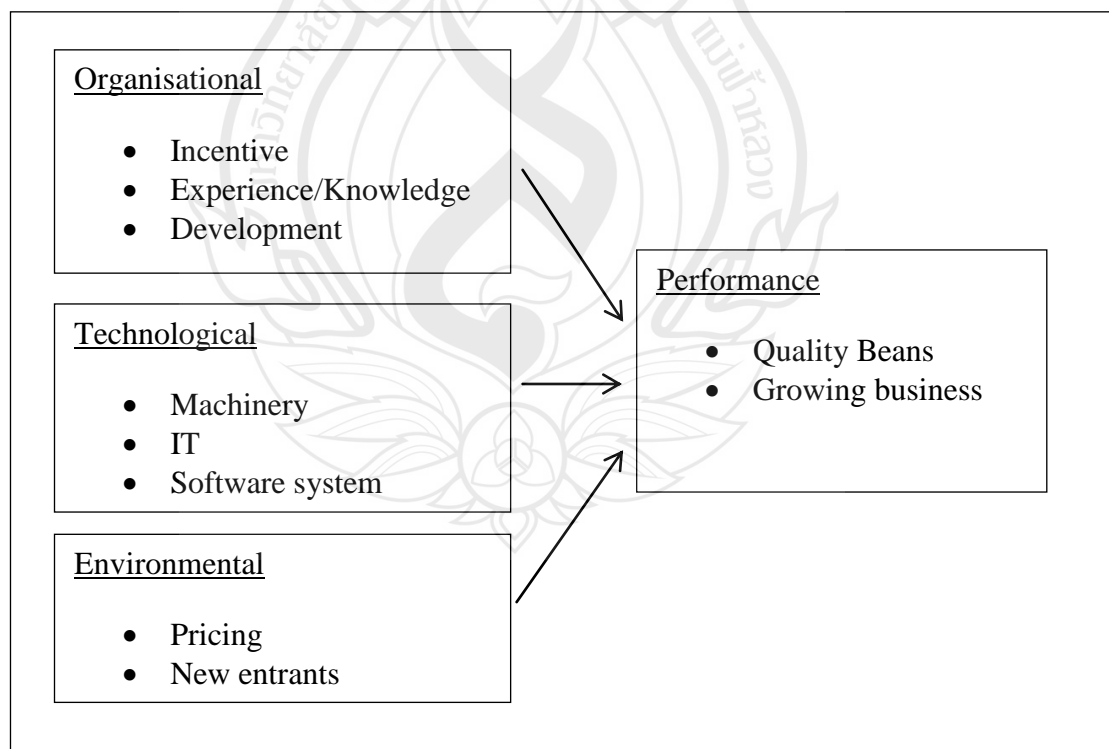


Figure 4.3 Company II

Mr. N discussed numerous factors that contribute to the successful operation and management of their companies, such as organisational system, rewards management, experience and knowledge, and organisational development, which were discussed in relation to perspective of coffee supply chain in the coffee industry. Mr. N explained that:

Coffee business was not popular in the past in Thailand. I realized about the identity of the coffee products at that time but I knew that there was a good opportunity for the business. I knew that it could be possible for future business growth if I invest into this type of business. So I spent time to study about coffee. It took me about almost a year to understand about coffee and its characteristics and the way to do the coffee business.

Mr. N expressed that knowledge and an understanding in coffee business is important as it is core for organisational direction to lead their business strategy for long term planning. Mr. N shared his extensive experience about how he travelled around to learn and gain knowledge of growing coffee towards operating coffee business.

... I went many places in Thailand that grow coffee beans and observe about the whole process from the beginning of the coffee planting, all the growing process till the last outcome of the coffee. So I study about coffee planting process first and had no idea about the making or tasting of coffee. Then I began to observe all the coffee planting location such as Doi Chan, Royal Project, Doi Luang and Chiang Dao.

Experience that he gained from his learning also helped Mr. N in many aspects towards decision making for his business. Mr. N explained that:

I started my first coffee shop in the northern part of Thailand. I used all the knowledge about coffee I've learned and applied knowledge to develop and improve my business.

Mr. N understood that different organisation had different factors that could impact to the business operations. He attempted to improve his business through management in practice and he also believed in organisational development, which he explained;

I have our own training program. We expanded our business into many locations in the northern part of Thailand. My experience told me that training is important for all staff members in order to ensure service standard and product quality to deliver to customers at the same level. Each new recruited employee has to pass our standards before they could start working at our branches.

In addition, these training have to be in a continuous process. Mr. N explained that all staff members have to learn all the time and they need to improve their skill. Mr. N provided new knowledge to his employees and send out information to his branches to ensure that his employees at different locations receive similar information. This was a continuous process and had to be performed once they are in the industry, which Mr. N quoted;

...for the cashier and barista system we test every year to upgrade level.

Mr. N supported the organisation, which organisational development as a management culture to provide employees with the right knowledge and skills to maintain it competitive advantage in the organisation.

Next, Mr. N discussed the perceptions of technological context factors such as machinery, information technology (IT) and software system claimed that technology provides great benefits to their business. Mr. N also discussed benefits for its supply chain such as cost reduction and enhancing the quality of products. Mr. N quoted that:

... we received more number customers day by day and month by month and we became popular. I think that we should increase variety of coffee choices at that time to offer customers more choices of products at our locations. The

coffee business was so flexible at the beginning in Thailand and customers did not know much about types and characteristics of coffees. We have many types of coffee beans at our coffee shops and we have to order more and more coffee beans for our coffee business. At that time, the seller sometimes did not have coffee beans product available for us to sell. I realised about it and found that we had to begin the whole process about coffee ourselves.

Mr. N faced some difficulties with supplies of roasted coffee beans when the business started gaining acceptance in the market. Due to shortage of supply of roasted coffee beans, Mr. N decided to learn to grow coffee beans along the supply chain, which Mr. explained that:

...we have got all chains today. We possess all processes from contract farming, processing, and roasting, which receives international accepted standards and recognition.

When discussed with an uncertainty issue in the business in the coffee industry that causes by the suppliers, Mr. N discussed that he initiated and invested in the roasting technology. He explained that machines help his business operations to mitigate his coffee supply chain business. He commented that:

Yes, I realised that the use of technology is important in my coffee business because the technology will help our business to save time in operational process and cost along the supply chain. We should be able to export the coffee beans product in the following three years from now. Recently, we are constructing our product tank. We will have our own new roasting factory. We are in the preparation process, which requires time at this preparation stage because of some inspections and policies required by our business management and the governmental sector.

With this new roasting machine, supply has been produced stably and the quality control has maintained and increased. Mr. N has to control a consistency of

raw beans supply in order to gain more control along its own supply chain which Mr. N explained that:

We try to minimise cost of operations and supply in many ways and the coffee beans supply we minimise our cost by using the contract farming, we bought the coffee beans from the source that we knew previously. For example, we purchase from the local producers that they offer us at acceptable price and we could accept. Then we became more familiar with them and we trust each other. We use this strong relationship to deal the business and we maintain this good relationship with them. We later on could grow coffee by our own.

Mr. N learned all about the coffee supply chain and studied the way to minimise the cost for the business. Mr. N then tried to strategies in every way to maximise profit in order to further expand its business afterward. Mr. N stated that:

We discuss with the local coffee growers about market expansion and want them to expand area to grow coffee in the same direction. So they want financial support from us to support them. We could only help them to get some portion of money in advance to ensure that they would be eligible to increase coffee beans productivity. In the harvest season, if they grow coffee beans effectively such as red coffee beans, we will give them one THB in addition per a kilogram. However, if there were some green coffee beans, we could only offer them at regular market price. We provide health insurance for them if they happen to be sick. We take care of them partially but not 100%.

From this statement, researcher observed that supply chain management is very important in this coffee business as there is no substitute of raw coffee beans, which led many local producers develop their own network to gain access to the raw materials with rewards or incentive program. This was to increase the production quality and also create a closer relationship with its raw material suppliers. When discussed the use of information technology (IT) in the organisation, Mr. N highlighted that:

...we like have our own IT program that we hire someone to write software for us. For example we receives all the transactions that occur on Friday, so on Saturday we have all the details of information ready and to work on Monday of the following week. Then we ship order by order to all branches.

In Mr. N's view, he believed that transactions information could be utilised to manage and control along the supply chain and had impact to the organisation towards the level of productivity in relevant with demand of customers. In addition, this software also monitored the business trend. Finally, environmental context is discussed. Mr. N explained through his years of experience that he involved in this coffee industry and discussed key issues that has impact on this coffee industry. Pricing of raw coffee beans was considered as the main factor, which had the highest impact and led to high competition caused by the new entrants. Mr. N explained that:

Firstly, I would say the coffee beans price was unstable as well as the price of the coffee products in the market. The coffee market has new entrepreneurs enter to the market all the time. For example within last two years (2011), many new coffee brands established continuously. The new establishment of coffee businesses in the industry pushed the price of coffee products to go up more competitive because all the new born coffee shop offered more prices to supplier to receive product supplies. So instead we could go by the standard price, new born coffee shops even pushed the price higher. That made the competition in the coffee industry very stiff.

Mr. N viewed the competition in another direction as he viewed that there was still an opportunity for the coffee industry and it was still viable. Mr. N explained that:

I mean the competition starts directly and can be seen throughout the industry. Everyone knows that. Practically, there are more people consuming coffee and that makes the market goes bigger. So this makes it variety choice for

customers as well because they don't just go to one place every day besides they change their coffee shop constantly. This make the coffee market indirectly grow. Otherwise, this may not the competition but more expanding marketing.

As an emerging market, competition intensity is increasing as many entrepreneurs see the opportunity of this type of business in the industry. Even though the number of new businesses has increased, these businesses have emerged in response to an increasing number of customers.

4.9.3 Organisational, Technological and Environmental Context of Company III

Mr. D is the owner of coffee business in the Company III. This research involves analysis of the narratives gathered from interview. The discussion continued by exploring perception of Mr. D, who is the business owner and also discussed in relevant with supply chain management in his coffee business.

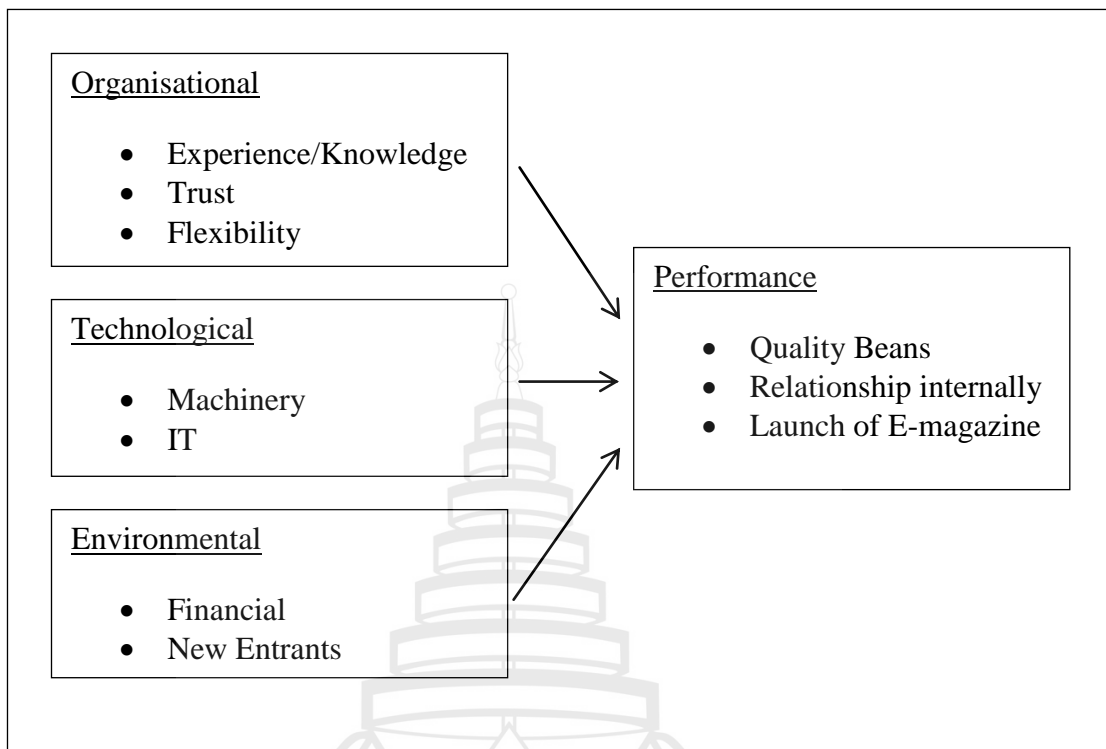


Figure 4.4 Company III

Mr. D shared his experience that once worked in a research and development employee in a huge organisation that highly involved in coffee growing. Mr. D passion for coffee has led him into venturing his own coffee business. Mr. D business has established for 10 years since he left the initial organisation. Mr. D explained that relationship or connections is the key to his success in this coffee industry:

My interest on the coffee business started when I worked with the Research and Development (R&D) center and I still have close connection with them like a public mind. In the past, suppose that they had to go to the hospital. If people at work had no vehicle, I would give them a drive to the hospital. Sometimes, they had a financial problem or short of money. I gave them financial help just like borrow and they can return me in terms of coffee. I give more importance in connection than contracts; I think connection is better than contract.

By creating a good relationship in the organisation will foster a great motivation for it employees. In addition, Mr. D also explained his management style:

I manage by using the concept of flexibility at my organisation. As long the quality of product meet my standards then it is fine with me. I let them work under their own responsibility. They can work well by using their own knowledge and environment that they create by their own.

Flexibility to the business at the Company III has proved effective operations in Mr. D perception. Mr. D added that:

This is the most important part in business from my experience. I believe in relationship. For example, Men are not machines and need to rest and I am flexible and allow my employees to work at flexible time, but under rules and regulations of the company. Once they come back they will work very hard.

This shows that, appropriate management style within the organisational context. From this interview, management style could be used as a tool to motivate employees to work more efficiently. Mr. D highlighted that he shared his knowledge in best practices and he explained:

I teach the local people and producers myself from my knowledge and what I have learned. I teach my people, train and coach them. They learned this knowledge and applied in their own village.

Sharing knowledge is important for an organisation to develop into a responsible working environment. Following the discussion on technological context which Mr. D, he explained that;

Technology is only part that lead my business to succeed because we only aim to produce premium coffee. More than half of my operational and production

activities required intensive labor, which less technology is required. However, in the case of an emergency I will use technology to facilitate processes. If I can use the worker I will use it. The aim is to make coffee very clean and high quality bean and zero defect. Technology can be helpful to facilitate the operational process such as selecting high quality coffee beans. Instead of using technology or machines, sometimes I concentrate in hiring people to work so that local people can also earn for their living. For example we can use color sorting but if we buy this machine then the worker have no chance to work and have less income year round. In this case, I hire the coffee sorter for the whole year round.

Technology helps to increase the quality of the beans and cannot be omitted. Mr. D stressed that usage of technology in his supply chain is partial which he still hired skilled workers to sort the beans. Even though he understood that IT implementation could facilitate the operational and production processes and could also customise products and services according to the customers' demand, Mr. D still preferred to use local people to work. He believed that using local people to work could create jobs to local people and it was the way to develop good relationship with local people as the suppliers in the long-term.

4.10 Discussion

The size of organisation, organisational culture, management style and organisational structure were major organisational context found in all three companies. The secondary activities, on the other hand, include the firm infrastructure to support these businesses' activities. The management functions include management or administrative planning, accounting and legal work. Also, the secondary activity includes human resource management such as personnel skills development and training, benefits and other emoluments, and technological development. These are secondary activities that are necessary to support the primary

activities and to provide inputs and services to produce coffee beans product as found from interviews with business owners.

In this section, each business owner shared their views and experience on the number current employees and also their business operations in general. From the findings, it was found from the three companies that size of organisation is varies matter as the companies has its own objective, mission and vision. Besides, it depended upon the industry that each business was involved. In comparison, the company that involved more with manufacturing the coffee beans depended heavily on machines, which lead to a smaller employment. This was because they used machines to facilitate their work and decrease cost of products and service. However, most of the companies participating interviews in coffee industry had more employment as they concerned with their relationship with the local intermediary or local coffee growers.

4.10.1 Perceptions of Organisational Context

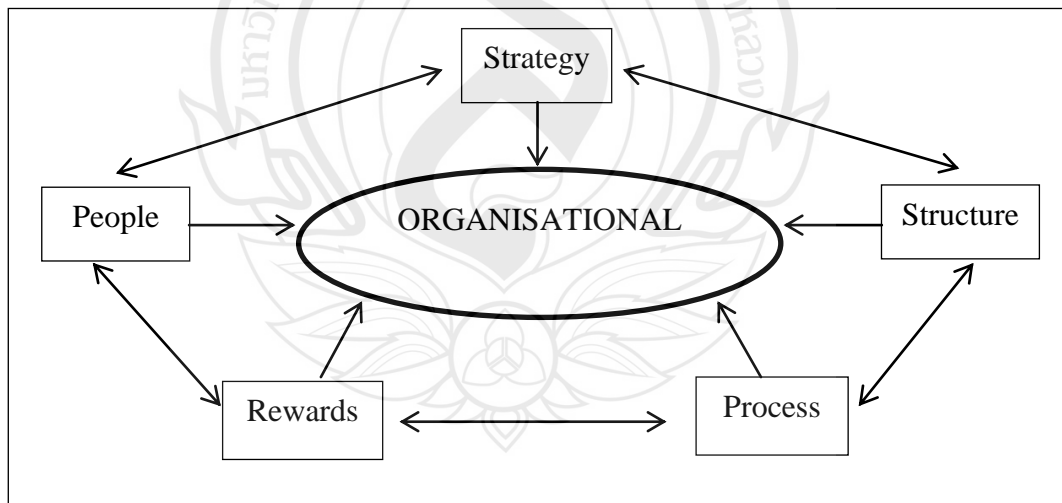


Figure 4.5 Perceptions of Organisational Context

In the interview, the business owners highlighted that factors that can form a good organisation as one of the perception of effective and efficient company along the supply chain management. Figure 4.5 demonstrates the linkages within the organisation. Five major factors that gathered during the interview were strategy, structure, process, rewards and people. Besides, these companies had the initiative, which was to create livelihood for the coffee farmers. This was in line with the Royal Project initiation to help the hill tribes to have jobs and could survive them.

4.10.2 Perceptions of Technological Context

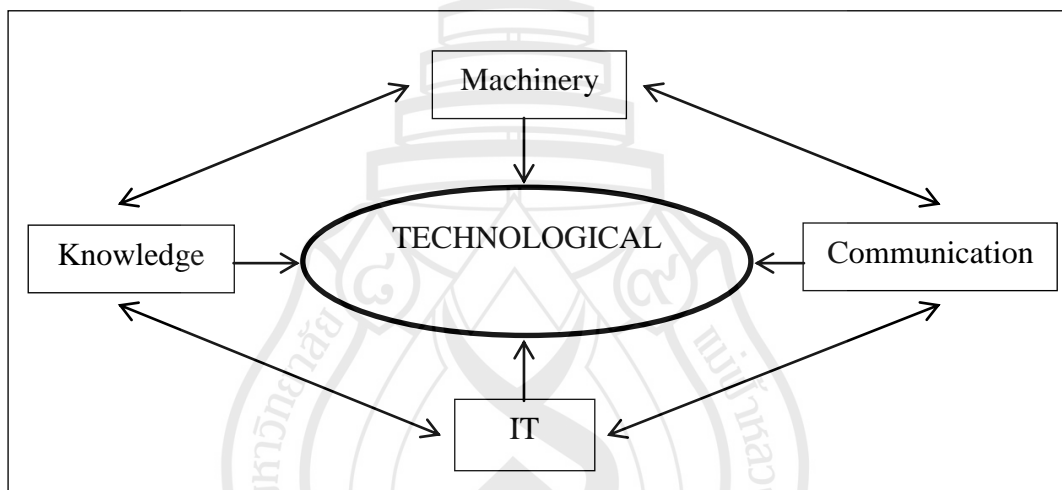


Figure 4.6 Perceptions of Technological Context

From the interview with the three companies, the researcher found that four major factors that influence technological context as demonstrated in Figure 4.6. Machinery is used to enhance the process of the refinement of the coffee beans. IT is a form of system that links the businesses and keep updated with the information available.

4.10.3 Perceptions Environmental Context

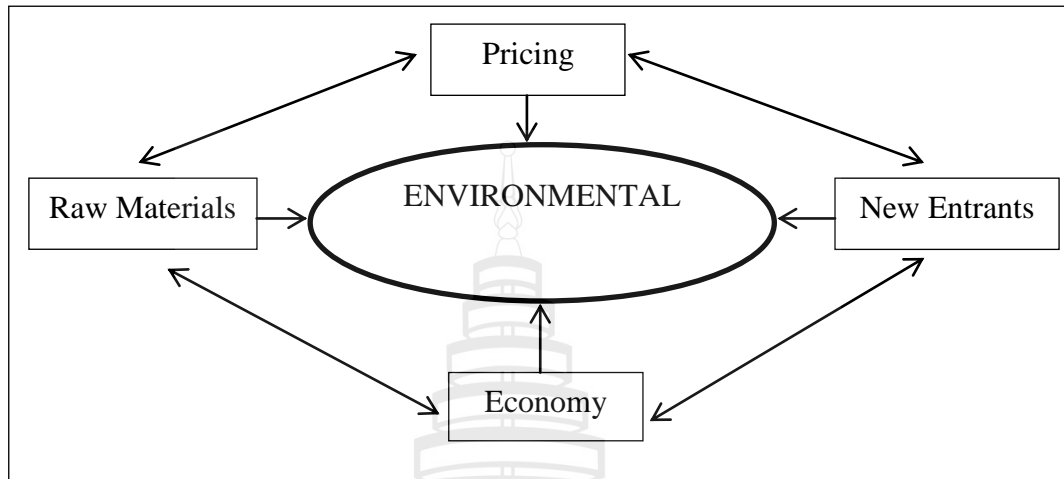


Figure 4.7 Perceptions of Environmental Context

Figure 4.7 demonstrates the linkage of four major factors that influence the environmental context, which were comprised of pricing, raw materials, economy and new entrants.

Table 4.5 Highlights of the Interviews

Context	Company I	Company II	Company III
Organisational (Resources)	Flexibility	Culture	System
	Trust	Knowledge	Incentive
	Knowledge		
Technological (Capabilities)	Machine	Machine	Machine
	IT	Communication	IT
Environmental (Threat)	Pricing	Pricing	Pricing
	New	Quality	New
	Entrant		Entrant

Table 4.5 demonstrates the summary and highlights results of the case studies. Business owners shared that their perception of supply chain management in their business. Researcher has grouped them into categories according to the OTE framework in order to have a clear understanding of the perception.

4.11 Industry Structure Analysis

This analysis was discussed relevant to Porter's five forces model to the environment surrounding the local coffee producers in order to develop an accurate understanding of the current specialty coffee industry. Porter discusses that each industry has an underlying structure or a set of fundamental economic and technical characteristics that give rise to the five competitive forces. These forces are 1) industry rivalry 2) threat of new entrants 3) threat of substitute products 4) bargaining power of suppliers and 5) bargaining power of buyers.

These five forces shaped and influenced business strategies of each company. It presented a clear view of the external conditions and the contending forces within a specific business industry. It also allowed businesses to create and improve a strategy

appropriate to the business to gain competitive advantage or sustain their business in a long time. Supply chain management as part of strategic components that have led to their business role in this industry. Hence it is important to undertake this analysis to understand the characteristics of the coffee industry and to have an overview of the industry. The primary forces of the coffee beans product and industry is also of vital important that put pressure on each company to survive their business and ensuring their business condition that the local Thai coffee intermediary could be eligible to facing the competitive condition in this high competition era.

4.11.1 Industry Rivalry

There had been a potential to influence each company in the coffee industry to encounter difficulty to survive their business in the stiff competition and generate profit for their companies. The coffee industry had a structure or characteristics that are difficult to define or to set a boundary from which it could be differentiated with other industries. Although it could be easily recognised from a single commodity, which was the coffee beans, the coffee industry's characteristics are unique in that its scope was much larger than what it appeared to be. The coffee industry could be divided into two categories, the production based segment and the retail-based segment. For purposes of this research, the production-based segment was confined to those companies and individuals source the beans from farms and process it into coffee beans to roasting and consume.

The specialty coffee industry competition was, however, not price-based unlike the other industries. In this industry, consumption of coffee was not dependent on the price of the product or commodity but it was on the differentiation between each product and several value adding variables such as the quality of customer services, brand, brand recognition or image of the company. Hence, the specialty coffee industry was not sensitive to price adjustments or movements.

The dynamics of the industry rivalry within the specialty coffee industry in Thailand has changed dramatically since 2000. After the 1997 economic crisis, the local coffee competed primarily against other small-scale specialty coffee producers. They recently compete against companies of varying sizes and different exposures to specialty coffee. Local Thai coffee intermediary did not only compete with a variety

of smaller scale specialty coffee shops that source their own coffee from the farmers, but also coffee industry structure. All of these specialty coffee intermediaries were differentiated from in one way or another. They ensured the fresh brew of their coffee by delivering roasted-to-order coffee.

The specialty coffee industry has experienced explosive growth over the past ten years. As a consequence, many companies recognised the potential profit and tried to capitalise by entering into the industry. This has resulted in a drastic increase in competition within the specialty coffee industry. The diversity amongst these competitors still remained at high level but the grounds on which companies are differentiating themselves are changing. As larger companies entered the industry, the strategic stakes become higher, pushing some companies to differentiate themselves through price superiority, similarly to the businesses in the coffee industry.

In summary, the current impact of the industry rivalry force created by the competition between specialty coffee retailers is high. The growth of the industry has slowed whilst the number of competitors within the industry has increased and caused this change from the weak to strong industry rivalry.

4.11.2 Potential for New Entrants

The primary deterrents to entry in the specialty coffee industry are various barriers to entry. The economies of scale within the specialty coffee industry was increased as the size of the top players has increased. International companies such as Starbucks for example, have national distribution channels through which they can transport their specialty coffee at a relatively low cost compared to potential new entrants who have no such developed distribution systems. These larger companies were able to economise on their accounting operations and marketing budgets by facilitating their specialty coffee operations from the same department as for all segments of their businesses. Finally, these larger corporations were also able to reap economies of scale through their purchasing by negotiating long term contracts with coffee farmers and purchasing coffee beans in bulk quantities at discount prices.

There was numerous cost disadvantages imposed on new entrants that are independent of the economies of scale considerations. As the industry matures, the ability to access distribution channels and select from the highest quality coffee beans

had become increasingly difficult. Additionally, many companies recently had proprietary product technology involved in the production of their specialty coffee as well as lower per unit costs due to an experience curve.

Product differentiation within the specialty coffee industry moved away from the purely objective and defined traits such as the taste of the coffee, convenience stores and prices charged. The industry had progressed towards more subjective traits such as the ambience of the store, the social responsibility of the company and brand identification.

All of this made it more difficult for new entrants to gain solid customers base. Since the industry did not have large capital requirements, smaller specialty coffee shops are still prevalent throughout the Thailand and the potential for more of them to enter the industry is still present. However, these new entrants could be disregarded given the unlikely nature of their rigorous expansion and the insignificant effects they have singly on the overall demand in the consumer market.

4.11.3 Substitute Products

The force created by substitute products in the specialty coffee industry had decreased. Many companies that presented the specialty coffee industry with a threat in the forms of substitute products entered the industry and recently compete directly by offering their own premium coffee selections.

The primary substitute products still posing a threat to the specialty coffee industry were the caffeinated soft drinks offered in the market. However, even these substitute products pose little threat to the premium coffee industry. Coffee gradually gained preference over carbonated soft drinks. This was mostly attributed to the health concerns associated with carbonated soft drinks and the new evidence showing coffee as a relatively healthy alternative.

4.11.4 Supplier Bargaining Power

With the extensive growth in the specialty coffee industry, supplier bargaining power has changed in numerous ways. This co-operatives initiative was designed to ensure that the coffee farmers would be compensated fairly for their crops. Their increased unity under this initiative worked as a positive externality by increasing

their ability to exert bargaining power over their buyers. Thus, although the farmers were still many in number and small in size, they were connected through the initiative launched local Thai coffee producer and act in some respects similar to one large entity. As the industry had grown, more companies and restaurants, specialising in a broader range of products than just specialty coffee, have begun to purchase from the premium coffee farmers. This made the relative size and importance of the companies, within the specialty coffee industry less significant to the farmers. With other customers to supply, the coffee farmers were less constrained by the specialty coffee industry and its specific demand. This acted to increase the bargaining power of the coffee producer.

As competition increases within the specialty coffee industry, there was a greater emphasis on differentiating products through superior quality. The coffee beans were supplied by the farmers and they were most important input to the brewing process for a company making them increasingly important. For many specialty coffee companies, their success was from their ability to produce higher quality coffee than competitors, which acted to further increase supplier bargaining power. Currently, local Thai coffee producer did not lock their coffee suppliers into long-term contracts, due to potential price volatility. These contracts had term and condition within them which place a financial burden on the coffee suppliers if they choose to supply a different company.

A last component to the analysis of supplier bargaining power within the current specialty coffee industry environment was the threat of forward integration. Technically, the farmers could forward integrate by setting up smaller coffee shops and brewing their own batches. When comparing the bargaining power of suppliers today in the specialty coffee industry to the bargaining power of suppliers, it is apparent that suppliers are more powerful today. The increased unity amongst the coffee farmers, decreased significance of specialty coffee purchases as a quantity of premium coffee bean sales and increased importance placed on high quality coffee beans by the purchasers had all acted to increase the bargaining power of the supplier group.

4.11.5 Bargaining Power of Buyers

The last component of five forces analysis was applied to the modern specialty coffee industry was the force created by the bargaining power of buyers. The primary buyers in the specialty coffee industry remained individual consumers. Neither individual consumers nor the multinational corporations who purchased specialty coffee committed a significant fraction of their resources to these purchases. This made the buyers less sensitive to price fluctuations and allowed the players within the specialty coffee industry to have more control over pricing. This was a responding to decrease the bargaining power of both the buyer groups.

The expansion of the specialty coffee industry created a wider array of competitors who offered high quality specialty coffee. This made it much harder for the players in the specialty coffee industry to differentiate themselves through quality and turned quality into the industry standard. In addition to the increasing quality standardisation, which specialty coffee had undergone, the buyers faced no switching costs and had an enormous selection of retailers from whom they could buy. The buyers of specialty coffee did pose a credible threat of backward integration. This threat could be carried out if a buyer selected to start a major specialty coffee store in close proximity to an established specialty coffee store.

The ability of buyers to backward integrate was enhanced by the availability of all information regarding the demand, market pricing, and supplier costs in the specialty coffee industry through sources such as the internet. With full information, the buyer was in a better position to ensure that they received a favorable price and received an appropriate level of quality form of product. The amount of bargaining power that was exerted by the buyers within the specialty coffee industry increased as a result of the availability of information regarding market variables.

4.12 Summary

This chapter explored and examined the perception from the business owners in natural setting and shared their best experience and practices in the OTE context. Researcher also found out that, each business owner has their own management style,

technological adoption and understanding of business environment surroundings to drive their business. The information was addressed and mitigated along the coffee supply chain management. The discussion included the competition in the Thai coffee industry as the findings explain environment of the market and also industry structure analysis.

Each company as the local intermediary provides knowledge and the understanding of the Thai coffee industry through the business owners' experience, which leading to an understanding how the coffee business could improve their business performance in the Thai context.



CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 Introduction

This research explores challenges and sought to understand the position of local Thai coffee producer along the supply chain. This chapter summarises the analysis and describes the factors that contribute to the perceptions of importance of supply chain management. The focus of the discussion is on organisational context, the technological context, and the environmental context and its implications. This research then aimed to:

- 1) Understand the role of local Thai coffee intermediary in the industry
- 2) Identify factors affecting in supply chain management process in the local Thai coffee intermediary
- 3) To assess the impact of Organisation, Technology and Environment context (OTE) on the local Thai coffee intermediary along the supply chain

The following topic is a summary discussion of the finding found in this research.

5.2 Summary Discussion

This study highlighted on the investigation factors that could lead to improved business performance in the Thai coffee intermediaries. To achieve these research objectives, this research attempted to answer one main question:

How does local Thai coffee producer manage their own supply chain to be competitive?

The literature was reviewed in the areas of supply chain management, competitive advantage in coffee beans business, organisational management and technology management in the coffee business operations in the Thai context. For example, Simschi-Levi (2003) defines the term supply chain management that is regarded as a set of approaches utilised to efficiently integrate suppliers, manufacturers, warehouses and stores, so that the merchandise is produced and distributed at right quantities, to right locations. The coffee intermediary in the northern of Thailand also needed to follow the concept of supply chain similarly. Other concepts was the competitive advantage in coffee beans business that was identified as industry basic of unit of analysis (Porter 1979). The five forces of competition were used as a tool to identify potentiality of new products, services or businesses to be profitable in the coffee business. The literature review shaped research framework to understand the research question.

The study used thematic coding approach to analyse data as explained in chapter 3. However, the content validity was also used to ensure that the theme coding was used appropriately and valid.

The finding demonstrated that they were in line with the OTE framework, which include organisational, technological and environmental context as explained in the following topic.

5.3 Organisational Context

During the interview, evidence showed that there were several roles that local coffee intermediary impact in growing coffee beans along the coffee supply chain. The sample of case studies was in group of small medium sized enterprises (SMEs), which includes a business owner and employees in the organisation. The set-up of the organisation size was crucial and had to be at the optimum size according to characteristics of the business as it differentiated small from medium and large

organisations. The finding was inferred by previous research as the data of that relates to the age of organisation, information about the duration of organisations established in that industry and their relationship with suppliers and customers whether it is initial, growth or maturity phase can be identify (Udin et. al. 2006).

This research explored that they preferred to stay in current context rather than expanded rapidly although there was interest from other parties. In this study, it was found that local intermediary in Thai coffee industry focused on quality products. It was proven that the structure and management of the supply chain plays an important factor in improving organisation's competitiveness to capture large market share (Womack et. al. 2007) as it was discussed in chapter 2. In addition, managing a small or medium sized business, a business owner had better control and operated their business efficiently. Business owners worked closely with employees to be able to control the quality of products. Relationship played in a big role in this coffee industry as it created appropriate working environment and trust amongst owners and employees. With this working environment, it led businesses in the coffee industry to a strong foundation of structure within the companies and this also linked to the future expansion in the business through internal function strategy that align the SCM and with organisation internal function (Sarkis & Sundarraj 2000). Capabilities within the organisation were connected to relationship as both factors complimented each other to bring out the potentiality of its organisations.

The key findings from this research were the organisational factors that were inferred to be important and contributed to the perception of successful operations along the coffee supply chain management. This was led to improved business performance in the local Thai coffee intermediary organisations. The improvement included people in the organisation, process, organisational structure, rewards and strategy as identified in this research. In this organisational context, participants are from local background and bring a strong linkage of Thai culture that influenced in the management style and were considered to be unique in practice.

5.4 Technological Context

Each business had different needs in terms of technology, and most use multiple forms of technology. All participants in this research used traditional technology (Mingmalairaks 2011) as their major technology in association with engineering technology (Mingmalairaks 2011), which majority was machine being used to refine coffee beans into a quality and premium products. Key findings from this research in the technological context were machinery, information technology (IT), knowledge of handling machinery and communication technology such as phones. In a rapid change environment, firms that operates in highly uncertain and rapidly changing environments need to maintain their technological expertise to be able to compete with other competitors at the same or higher level (Lee 2010). In addition, the IT technology was being adopted to align with the current global trend of IT advancement for business improvement. IT technology were sought as part of dissemination of information and also gathering of information in the business (Mingmalairaks 2011).

In summary, technological factors found in this research that led to improved business performance in local Thai Coffee industry, from the interview with three businesses in the coffee industry, were IT technology, compatibility and capacity of machines that were used within the organisation.

5.5 Environmental Context

The environmental factors that had an impact to the perception of successful management in the coffee supply chain towards an improved business performance and maintained in competitive market were impact of new competitors and information flow. From the literature review, environmental factors refer to the environment in which an organisation conducts its business (Angela et al. 2005). This included information and competition surrounding the industry (Prasad & Sounderpandian 2003).

Business owners had to understand their business and their position in the industry and used organisational and technological factors to enhance their business capability, and their business competency to differentiate their products and business, be able to compete with, or be ahead of, and their competitors (Cai et al. 2006). In summary, environmental context in this research explored the big picture of challenges and pitfall that local producer are facing. Thus, environmental context was closely linked to the competition intensity in emerging market of Thailand. In this study, Information technology was one concern in the small and medium sized organisations that utilised the information to improve their business in order to respond their supply chain towards the needs of the customers (Jüttner et al. 2007).

5.6 The Importance of Supply Chain Management and Business Performance

Supply chain management also impacted the business performance and guided the direction of obtaining and maintaining the competitive advantage. Employees could work more efficiently and conveniently improving transactions between businesses such as making better communication flows towards up and down the coffee supply chain. With the concept of supply chain, organisations have shifted the strategy not only internally but also to work closely with their suppliers, customers and competitors in a collaborative supply chain environment (Chong et al. 2009). The role of a supply chain from a network perspective was to link different actors that operate businesses or related businesses together, as well as processes within an organisation (Alvarado & Kotzab 2001). In summary, supply chain management emphasise the overall and long-term benefit of all parties along it supply chain and on the chain through co-operation and information sharing (Gunasekaran & Ngai 2004), which was similar to the coffee intermediaries cases found in the finding of the research conducted.

In this study, the use of IT enabled those linkages to improve information flow and business transaction. Local companies faced challenges and had to maintain its competitiveness to be able to compete with their rivals to be successful. The most

important part for the company was to deploy appropriate supply chain management strategies that could improve their business performance. OTE framework was enable for a company to assess itself in current state. The coffee supply chain in this study form an effective and efficient supply chain as strategy, businesses need to developed relationship both internal and external organisation together with information technology enabling information flow, coordinating supply chains are designed to meet the strategic and operational processes and objectives of the business (Li et al. 2009).

The research also showed that information sharing and an IT adoption strategy could have significant impact on business operations; enable the company to achieve better performance and to gain higher productivity. The IT systems enabled better vertical integration along the supply chain but this research found that for integration to be effective, actors along the supply chain need to have a strong foundation of infrastructure or capabilities in this context (Gunasekaran & Ngai 2004). However, this research demonstrated how context in the company and the importance of relationships in the supply chain made those factors more relevant to the local Thai coffee producers.

5.7 Limitation of Study

Each research study has limitations and limitations can alter the outcomes of the research. In this research, the first limitation was a time constraint. The participants were concerned about providing information that might be accessed and used by their competitors where this industry was competition intense. All interviewees felt more confident over time that all information would be kept confidential after the researcher provided information that this research being conducted was solely for academic purpose and their business entitles would be pseudonym. Some interviewees were defensive at the beginning of the interviews but became more relaxed at the end. This, in turn, was not a significant limitation as it was monitored by the researcher. Owing the time and budget constraints, this research could cover only three case studies and had a relatively small sample size. Secondly,

there was limited secondary information on coffee supply chain. Another limitation of this study was the potential for biased interpretation caused by the researcher interpreting the findings through the researcher's understanding the Thai coffee context and taking into account of own background and perspectives. This bias could be commonly found in business interviews.

The data for this study came from three companies in one specific industry. Other businesses might have different business conditions, a different organisational culture, vision and mission, or management value, and the size of the organisation were different. These conditions might impact on the company's strategy in supply chain management to assist their business operations.

Finally, this research was exploratory qualitative study to understand the position and perception of local Thai coffee producer in supply chain management, which researcher did not generalise the Thai coffee industry as a whole. The reason was each company has different factors that impact to their business operation in different ways.

5.8 Future Research

This research contributes to an understanding of the nature of Thai coffee industry, and specifically, supply chain management at the level of organisational, technological and environment factors that lead to perceptions of improved business performance in the local industry by enhancing the understanding of these organisational, technological and environment context along the supply chain. Thus, this research contributes to potential future research in the following areas based on the current research. Extension for future research can also explore the competitiveness of Thai coffee industry among AEC region as a platform of moving forward in the industry and the value creation to its demand.

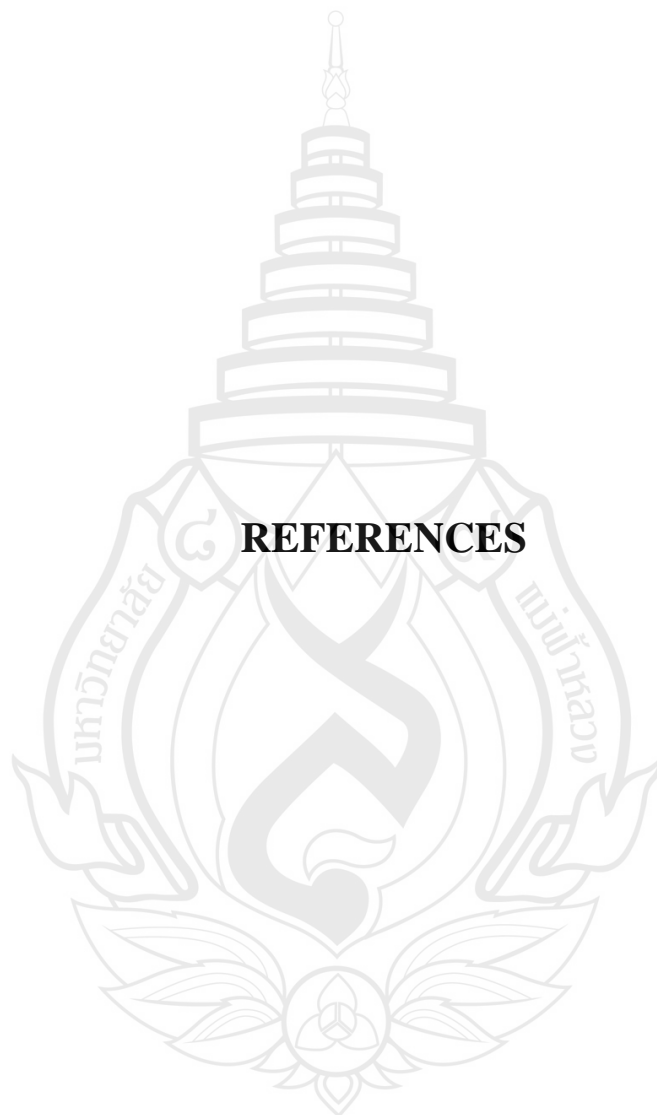
In addition, this study could be used as a basis for further research that explores in risk management in relation to other organisational, technological and environmental risks, or other industries, using a mix research method. Policy makers and coffee association role was not discussed in this research because the interviews

were conducted solely with business owners. Future research should focus on policy making perspectives, and how coffee association would come into the picture to understand and support the local producers for their sustainability in the business.

5.9 Conclusion

A supply chain is only as strong as when it is effectively linked (Simschi-Levi et al. 2003). Each relationship existed between the supply chain involved in the separate stages of the chain whether it was in the structuring of product distribution, arrangements for payment and arrangements for handling, or in storing the coffee product. At the heart of these relationships it was the way in which people treat each other. Long-term business relationships had to be based on honesty and fairness parties to a trading agreement need to feel that they are getting a fair deal. According to the “Guanxi” concept, it referred to as a personal relationship or connection and it presented framework on relationships that was appropriate for businesses in the context-laden Chinese society (Wong & Tam 2000). This long term relationship was explained clearly by the Guanxi concept or the Chinese relationship management. Other researches on relationship management also explained similarly such as Fan 2000, Razzaque and Keng 2007, Wang 2007 and Xuewei 2009. Supply chain management is also viewed as one of the integration to business strategy.

The application of this framework could assist local producer to take a deeper understanding of their positioning and area of growth to their sustainability of business. This paper contributes to an understanding of the nature of Thai coffee industry, and specifically, supply chain management at the level of organisation, technological and environment factors that lead to perceptions of improved business performance in the local industry. The integration of organisational, technology and environment context and allowed an organisation to achieve long-term sustainability as they are prepared for the rapidly changing business surroundings. This research focus also attempted to explain that the OTE framework was generalized and applicably studied in the coffee industry in the Thai context.



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APPENDICES

APPENDIX A

A1 Permission Letter for Interview Request

ที่ ศธ ๕๙๐๔/๑๒๐๒

มหาวิทยาลัยแม่ฟ้าหลวง
๓๓๓ ม.๑ ต.ท่าสูด
อ.เมือง จ.เชียงราย ๕๗๑๐๐

วันที่ ๒ ตุลาคม ๒๕๕๕

เรื่อง [REDACTED]
เรียน [REDACTED]

ข้าพเจ้าอาจารย์ ดร. สุเทพ นุ่มสาย อาจารย์ประจำสำนักวิชาการจัดการ มหาวิทยาลัยแม่ฟ้าหลวง จ.เชียงราย ข้าพเจ้าใคร่ขอความอนุเคราะห์ท่านในการขออนุญาตให้นักศึกษาระดับปริญญาโท สาขาการจัดการโลจิสติกส์และซัพพลายเชน Mr. Chong Han Ren เข้าพบและสัมภาษณ์ข้อมูลด้านการจัดการโลจิสติกส์และซัพพลายเชนกาแฟของไทย เพื่อนำข้อมูลที่ได้นำไปใช้ในการทำวิทยานิพนธ์ (Thesis)

อนึ่ง Mr.Chong Han Ren ได้มีความสนใจในการศึกษาวิจัยและทำวิทยานิพนธ์ในหัวข้อ "โอกาสและความท้าทายทางธุรกิจของผู้ผลิตกาแฟในอุตสาหกรรมกาแฟไทย: The current changes faced by local producers in coffee industry in Thailand" ซึ่งข้าพเจ้าขอรับรองว่าจะใช้ข้อมูลที่ได้รับการสัมภาษณ์เพื่อการศึกษาเท่านั้นและจะไม่นำข้อมูลส่วนหนึ่งส่วนใดไปใช้ในเชิงพาณิชย์ หรือทำให้เกิดความเสียหายต่อบริษัทของท่าน อีกทั้งข้าพเจ้ายินดีจะมอบข้อมูลงานวิจัยที่ได้ให้กับทางบริษัท เพื่อไว้ใช้เป็นข้อมูลเบื้องต้นในการวางแผนด้านการจัดการโลจิสติกส์และซัพพลายเชนในอนาคตครับ

จึงเรียนมาเพื่อโปรดพิจารณา และขอขอบพระคุณยิ่งมา ณ โอกาสนี้

ขอแสดงความนับถือ

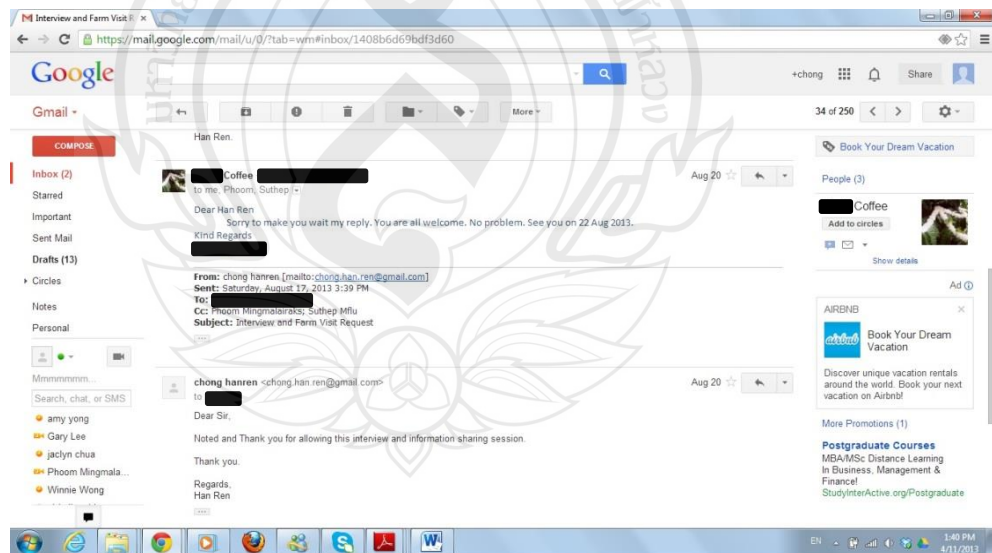
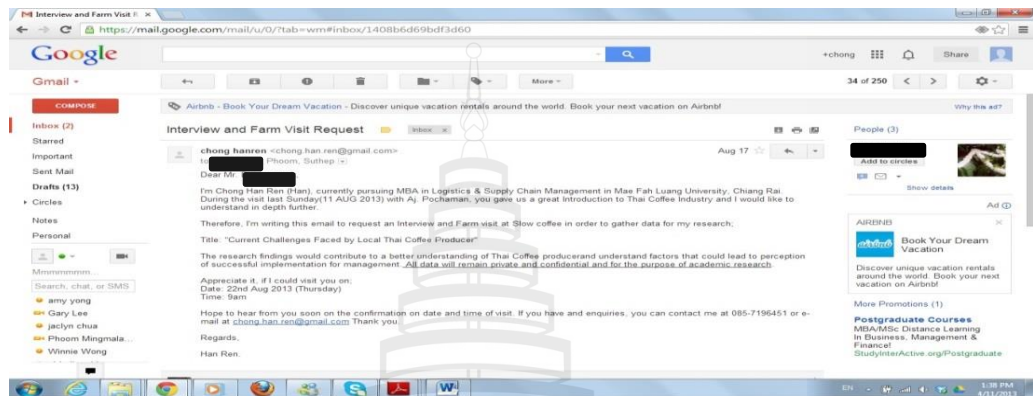
(อาจารย์ ดร.สุเทพ นุ่มสาย)
ประธานคณะกรรมการบริหารหลักสูตร
MBA in Logistics and Supply Chain Management
โทร. ๐๘๐-๕๐๑๘๖๖๔

เบอร์โทรศัพท์
Mr Chong Han Ren
Mobile: ๐๘๕๗๑๕๕๕๑

มหาวิทยาลัยแม่ฟ้าหลวง
333 หมู่ 1 ต.ท่าสูด อ.เมือง จ.เชียงราย 57100
โทรศัพท์ (053) 916000 โทรสาร (053) 916034

Mae Fah Luang University
333 Moo 1 Muang District, Chiangrai, Thailand 57100
Tel : (053) 916000 Fax : (053) 916034 www.mfu.ac.th

A2 E-mail of Interview Request



APPENDIX B

Interview Questions (Semi-Structure)

Section 1: Description about the company:

1. First, we would like to have some general information about your organization:
Vision, mission, goals, specific projects, relationship with the coffee sector?
2. How long has this business been in operation?
3. How many employees are employed in your organization?

Section 2: Overview of technologies that are utilized at the company

1. Do you think that technology is important for an organization's success?
2. What are the key technologies used in your organization and what were the criteria used to select these technologies for your organization?
3. How much emphasis is placed on these technologies in your organization?
4. Do you think that technological factors could contribute to the successful supply chain management?

Section 3: Factors contributing to the perception of successful supply chain management

1. Please describe the development of coffee sector supply chain changing?
2. Do you think that organizational factors could contribute to the perception of successful implementation of innovation management in your organization?
3. Does the organization define success on the basis of the development of human resources, teamwork and employee commitment?

4. Do you think that technological factors could contribute to the perception of successful supply chain management implementation your organization?
6. How has competition affected your business? Please also explain the current competition environment that affects the enterprise in developing products, services or processes.
7. Do you think that it is easy for new businesses to enter the market/industry?
9. Is it competitive to get raw materials? Is it enough resources?
10. How has information technology affected your organization?
11. Do you consider making more investment in information technology in the near future?

Section 4: Performances in the business

1. Are these organizational factors helped enhancing product/ services or processes / promoted employees to share information with one another, learning environment, and teamwork / factors influenced your organization achievement towards the goals?
2. Are these technological factors provided new opportunity?
3. Do these technologies increase productivities in the organization?
4. Are these technological and organizational factors different than other competitors?
5. How the organizational and technological factors help you to decrease the cost for your organization?
6. Do you think that your organization developed good relationship between employees and customers?

Section 5: Recommendations and suggestions:

1. Are there any suggestions about organizational, technological and environmental factors that you would like to discuss?
2. What are the main challenges or problems to enter and/or stay in the new supply chains?

CURRICULUM VITAE



CURRICULUM VITAE

NAME

Mr. Chong Han Ren

DATE OF BIRTH

8 July 1983

ADDRESS

17-A, Jalan Bukit Serindit,
75400 Melaka
Malaysia

EDUCATIONAL BACKGROUND

2013

Postgraduate Degree in Logistics Management
GROUP T Internationale Hogeschool Leuven,
Belgium

2007

Degree in Bachelor of Economics (Hons.)
Financial Economics
University Malaysia Sabah

WORKING EXPERIENCE

2007-2009

SIME DARBY PLANTATION SENDIRIAN
BERHAD

Position Title : Executive

Specialization : Business Development

Role : Planning & Implementation

Industry : Agriculture

2009-2010

**SIME DARBY FOODS & BEVERAGES
MARKETING SENDIRIAN. BERHAD**

Position Title : Executive
Specialization : Marketing
Role : Marketing/Branding
Industry : Fast Moving Consumer
Goods

2011-2012

**SHIVAY DISTRIBUTION SENDIRIAN
BERHAD.**

Position Title : Executive
Specialization : Marketing / Sales
Role : Key Accounts
Industry : Fast Moving Consumer
Goods

