

CHAPTER 2

Principle, Theory and Literature Review

The main objective of this research is to develop a model for supplier selection decision analysis and strategic choice in the tourism contexts. This chapter is the review of existing principle, theory and literature from the related viewpoint of this research objective. There are five sections in this chapter:

Section1 : Defining tourism and tourism today including tourism definition, tourism model, the nature of tourism and eTourism; the development and growth of tourism. These materials are reviewed to provide tourism background and its growth in this information and communication technology era.

Section2: Tourism Supply chain ,Customer Relationship Management (CRM) and its component for instance, Customer Experience Management (CEM) and Customer Service Life Cycle (CSLC). All component are reverse feedback that leads to Supplier Relationship Management which is the main concept of Supplier selection. Moreover ,supplier relationship management in tourism business, consisting of basic concept of tourism supply chain (TSC) and supplier relationship management (SRM). These parts are revised in order to comprehend the nature of relationship of the participants in tourism industry.

Section3: Supplier selection technique, including procurement concept, supplier selection technique and evaluation capability. This section is reviewed to provide general idea of procurement or outsourcing process and describe the 3 different patterns of the supplier selection technique which are used for different purposes.

Section4: Systems thinking in knowledge management context, consisting of knowledge management (KM) concept, systems thinking purpose and its core discipline. These materials are reviewed to provide tourism background and its growth in this information and communication technology era. Section5: This final section illustrate the correlation of all above theories.

The analysis results were used as to setup a research as a conceptual framework which will be presented in chapter4.

2.1 Defining tourism and tourism today

2.1.1 What is tourism?

The first definition of tourism was made by Guyer and Feuler in 1905. Guyer and Feuler defined tourism as “a phenomenon unique to modern time which is dependent on the people's increasing need for a change and relaxing, the wish of recognizing the beauties of nature and art and the belief that nature gives happiness to human beings and which helps nations and communities' approaching to each other, thanks to the developments in commerce and industry and the communication and transportation tools' becoming excellent.” (Bahar, 2005)

UNWTO defined it as signified as "Tourism comprises the activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes."

There are 3 criteria being used simultaneously to exemplify a journey as belonging to tourism. The displacement must be such that;

- It entails a displacement exterior the common environment: this term is of extreme significance and will be conferred afterward.
- Type of rationale: the travel must happen for any rationale unlike from being compensated from within the place visited: the preceding limits, where tourism was restricted to recreation and visiting family and friends are now enlarged to include a enormous range of purposes;
- Duration: only a maximal duration is mentioned, not a minimal. Tourism displacement can be with or without an overnight stay.

a) Tourism model

Medlik (1996) describes the tourism industry as: “firms and establishments providing attractions, facilities and services for tourists.” Some travel companies can be advance classified as the tourism-related industries if their activity and revenue is extensively reliant on tourists. Figure 2.1 illustrate all components in tourism sector. Each segment is related to one another. Starting from travelers who are the centre of all tourism activities. Each tourist may deal independently with anyone of the tourism

promoters and tourism service suppliers. Tourism services suppliers are responsible for providing services required by travelers. Hence, tourism services suppliers and travelers are direct interactive forces. Here are some examples:

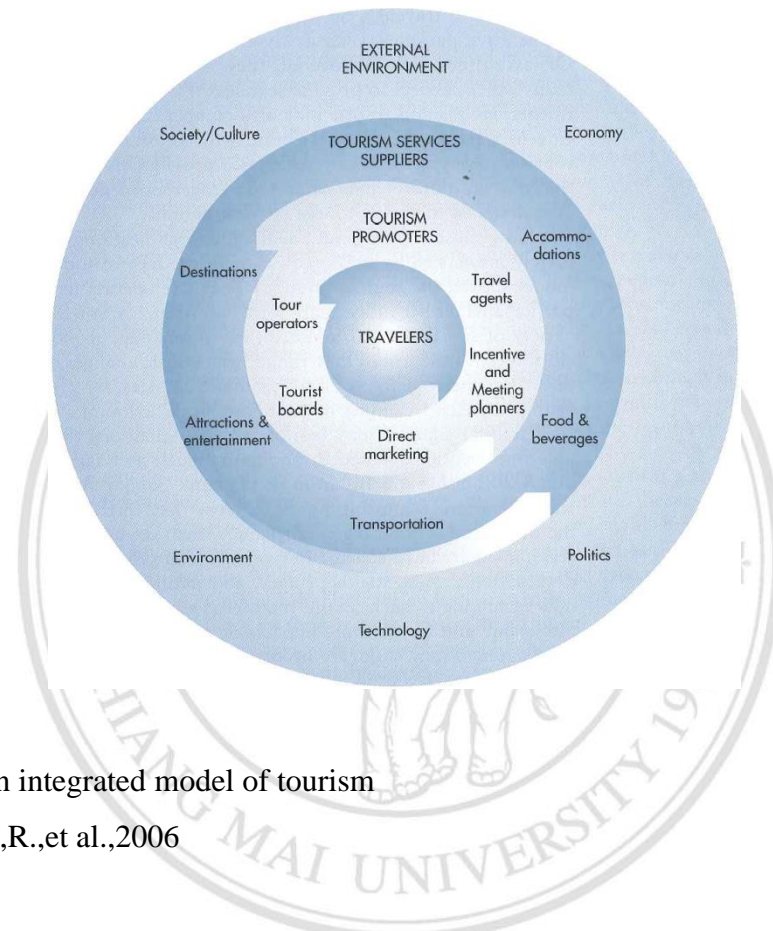


Figure 2.1 An integrated model of tourism

Source: Cook,R.,et al.,2006

Travelers demand satisfaction from products and services they purchase and use.

Tourism Promoter as a liaison between tour operators and travel agencies and helps promote tourist products and travel packages. The primary duty of a tourism promoter is to contact retail agencies, company clubs and other potential purchasers of tourism products in order to promote the products directly.

Tourism Service Suppliers require attentive communication, payment and a strong work relationship to provide the resources necessary.

The external environment influences traveler intermediaries and suppliers. The external environment is the indirect interactive force. The degree in which how influential indirect interactive forces impact one organization depends on the nature of

each particular business. Within the external environment, society/cultural or sociocultural dimension is especially important because it determines the goods, services and standards that society values. The sociocultural force can be broken down into the demographics and values of a particular customer base.

Demographics are measures of various characteristics of population and social groups who make up a society. Age, gender, and level of income are examples of commonly used demographic characteristics.

Values refer to certain beliefs that people have toward different behaviors or products. Changes in how society values an item or a behavior can greatly affect a business.

The political and legal section in the external environment includes regulatory parameters within which an organization must operate under. Political parties create or influence laws in which businesses must abide. Tax policies, trade regulations and minimum wage legislation are good examples of political and legal issues that could affect the way organization operates.

The technological section of the external environment impacts the technological efficiency of transforming inputs (resources, labor, money) into outputs (goods and services). Whether organizations may succeed or not depends on how well they identify and respond to external technological changes

2.1.2 The nature of tourism in 21st century

Tourism product is usually variable, intangible and perishable. These tourism product characters are different from products in the other sectors. For distributing tourism products, communication and advertising for promotional purposes through a group of customers is also important. Internet became a distribution channel and plays a huge role in the tourism industry in terms of searching for information and doing business online from both sides- suppliers and customers. Tourism product and services will be sold directly without going through traditional middlemen which is called “brick-a-mortar business”

There are 2 major tourist types divided from their motivation of trip

- 1) A business traveler: the business activities is a major goal. this group of travelers who booked via the Internet is the highest proportion because they

have high educational levels and are familiar with using computer to do transactions over the internet

- 2) A leisure traveler: This group has less reservations over the Internet .They have low base salary and prefer to purchase travel packages via off line intermediaries because of being unfamiliar with computer use and being unaccustomed to the internet.

The tourists have skill and demanding higher quality products. "New tourists" will be knowledgeable about the destination and better organization. And start looking at the value of money and time (Buhalis, 2003).

Value of time, so meaningful, because the limited time people have fewer days off. They also have limited time to plan a vacation. This phenomenon increases the number of online tourists and accelerates growth of online marketing. Most tourists use internet as planning tools to obtain map, route, ticket price, schedule, available room and interesting activity in travel destination. Internet has allowed tourists to search, plan and book their own travel. Its simplicity matches to price-sensitive online tourism shoppers. The travel trend in 21st century leads tourism organizations to serve every aspect of consumer's need. There are many types of ICTs which become the element of tourism industry which help consumers save time and money ,such as virtual tour ,mCommerce

“Virtual tours” refers to the realistic 3D navigation of virtual reality environments for purposes of exploring physical places in space and time without physically traveling there while,“Virtual tourists” have an increasing demand for multi-media travel information .Effective travel web pages should include all relevant and regular contents including the use of new media with photos, videos and audio, selling unique experiences.

WTO's predicts a long-term growth of tourism in 2020 that its sector will be expanded by 4.1% per year over the next two decades, and will reach more than one billion travelers by 2010 and 1.6 billion by 2020. (UNWTO,2001) (Figure 2.2 In the same context, World Travel and Tourism Council (WTTC) reveals that tourism industry generates US\$ 4,944 billion among all economic activities; approximately 11% to

worldwide GDP and increases worldwide employment by 8.2% (207 million work positions)

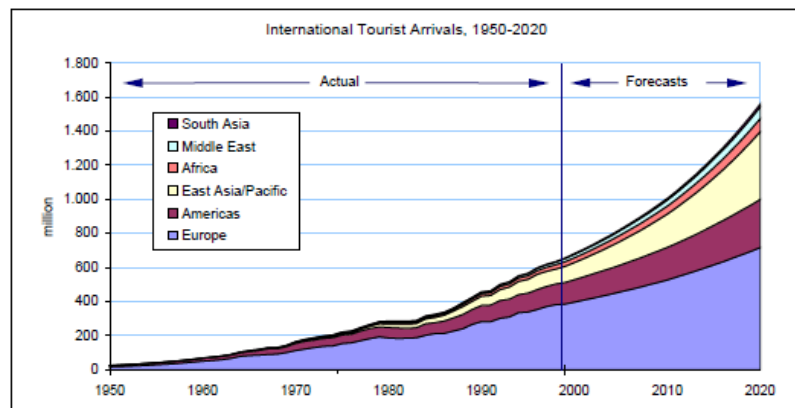


Figure 2.2 International tourist arrival, 1950-2020

Source: World Tourism Organization, 2001

These enormous numbers of tourists, money and employment confirm that tourism sector confronts with the dramatic change in structure and improve its structure by using ICTs. With the advent of eCommerce and mCommerce, tourism products have become one of the most traded items on the internet. Tourists have the ability to conduct commerce using a mobile device, such as a mobile phone, a Personal Digital Assistant (PDA), a smartphone or other emerging mobile equipment.

Tourism is of a dynamic nature and is affected by people and technology formerly mentioned. The analysis of trends in the 21st tourism demonstrates that there are numerous changes, signifying that tourism in the future will differ from present-day matters. The complication of tourism will bring about many difficulties right through its ICTs development. The remarkable changes in the quality of the tourist market are joined with the supply and demand. These features of ICTs needs lead to new ways in tourism companies. Bringing of modern technologies into tourism may indicate a genuine uprising in the organization of the tourism industry structure. Next section will discuss with reference to trend in tourism demand and supply.

a) Demand-driven e-Tourism

Internet progressively more revolutionizes flexibility in both consumer alternative and service liberation process. Increasingly, customers are flattering much

more sophisticated and sensitive, as a consequence of understanding high levels of service. Tourists become demanding, requesting for superior services at lower rates: getting value for their money . Therefore, sophisticated travelers depend heavily on internet and electronic media. The demand in customizable products that satisfy specific needs is also rapidly increasing, especially among businessmen and wealthy travellers. The Internet World Stats estimated the internet user are 2,267,233,742 (Figure2.3).The internet is high trembling in Asia. Europe demonstrated strong demand while, North America and Latin America have number of user nearly the same and with the rest of Africa, Middle East, Ociania /Australia following. These numbers include adult internet users at year end 2011.

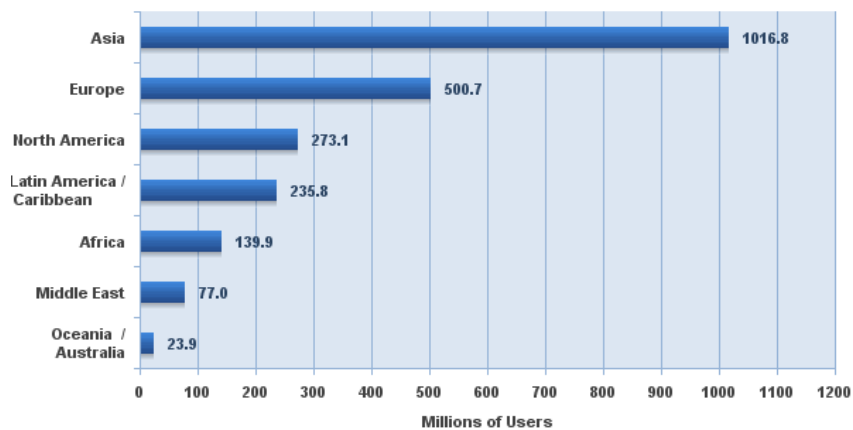


Figure 2.3 Internet users in the world by geographic regions-2011

Source: Internet World Stats,2011

There are several motivations for using internet for travel. In 2011, Google statistics reported that more than 87% of sample travelers went on a similar or more amount of personal or business trips than their past years. With the rising of mobile devices and social networks, more travelers are going through the five key stages of travel. This occurrence proves that consumers inquire more for journey information prior to their trips. 1) Thinking about making a trip: 68% of business travelers consider making a trip after watching online travel-related videos, 2) Planning: an average traveler visits 22 traveling sites during 9.5 research sessions prior to booking. 85% of leisure travelers consider internet to be a main tool in trip planning. 37% of them are inspired by the Internet when booking, increased from 28% in 2009. 53% of travelers have planned to do more comparison shopping this year, 3)

Experiencing: 70% of travelers book their flights and check in to their hotels with mobile devices. Almost 1 out of 4 queries are performed through these devices. 50% find travel information using these devices. and 4) **Sharing**: Close to 1 in 3 business travelers post a reviews of places they've been online.

a) **Supply-driven e-Tourism**

Supply side focus on the employ of ICTs in private sector and intricate on how ICTs can maintain the productivity and competitiveness of tourism sectors. Advance of internet modernize the usage of ICTs in the tourism industry and improved tourism distribution channel. Electronic marketplace appeared and most tourism suppliers developed Internet Interfaces to correspond straight and professionally with their clients and suppliers. Merging loyalty clubs, guest histories and all other informations held in operation databases make available for airlines, hotel and related tourism business with influential information that facilitated them to interrelate with their existing and prospect suppliers. Networking era enabled simple admittance to information and accordingly enhanced interactivity between tourism suppliers (e.g., airlines, hotels) intermediaries (e.g., tour operators, travel agencies) and consumers. In addition, new kind of intermediaries, e.g., Travel portals (e.g., Expedia.com) and auction specialists (e.g., Priceline.com) who focus on selling distressed ability.

2.1.4 eTourism: the development and growth of tourism

Tourism industry has employed Information Communication Technologies (ICTs) in every aspect of tourism. ICTs are now critical for strategic management of organisations as they allow: expansion into new markets, empowering of employees, lowering of costs and enhancing distribution

Advanced development in ICTs generated the Computerized Reservations Systems (CRSs) in the 1970s and Global Distribution Systems (GDSs) in the late 1980s, have changed the operation in airline business and widespread to the other parts of tourism globally (Buhalis, 2003). Until mid-1990s, over half the world's electronic transactions were in tourism, especially in large airlines. Destination management systems (DMS) then emerged. It also provides information on locally-accessible attractions and products along with helpful for conquering seasonality troubles by complementary tourism demand

The development of the internet provided a great beneficiary to tourism suppliers and consumers such as flexible to make online transaction, easy to access tourism suppliers' information, and distribute their product and service worldwide with low cost (Buhalis,1998). In this section, we can conclude the impact of ICTs to tourism industry as followings (Duncan, 2009)

1) ICTs empower consumers to categorize, customize and purchase tourism products. Consumers use vast amount of information to make a decision before travelling. They also use ICTs to access accommodation ,transportation and tourism destination. This search can be done from home or at work, thus saving the cost of travel and time in dealing with travel agents.

2) In commercial sector, Internet is used as a tool to trade product and service. This form of commerce is call e-commerce which tends to be a greater in number of business online transaction. Helmut Berger et al (2007) discussed that tourism was the market leader in e-commerce especially B2C online sales. B2C continue to increase even more static, such as transport or accommodation.

3) The structure of the tourism industry has been changing dramatically because of tourism behavior. Consumers require accountability information which they can reach real time from internet .This behavior influences tour operators to modify the strategy of presenting information. Roman Egger and Dimitrios Buhalis (2008) have discussed the factors that the information must be adjusted to bring ICTs to make a close relationship with more customers. Tour operators could use ICTs to manage subsidiary travel agent companies and apply ICTs tool for competitive advantage. Internet changes the structure of the tourism value chain as follow:

1) Tourism suppliers, executing eBusiness will diminish the importance of the existing distribution channels and agents. Prices have been adjusted to suit the environment and business conditions. They will build the alliance, support direct sales , increase price competition and price discrimination and reengineer their business process, for instance, electronic tickets, automatic check-in.

- 2) Tour operators make their own eBusiness to avoid the use of Global Distribution Systems (GDSs), which has higher fees. Tour operator will create a direct interface with consumers who has specified need.
- 3) CRS and GDS owner were aware of the importance of value-added proprietary information more than the importance of the proprietary technology . they changed their traditional role to become the product and service integrators. This changing role turn GDSs to be a direct competitor to travel agents. The main strategy of GDSs is to link the main tourism websites together for increasing amount of the transaction and emphasize on direct sale to tourists
- 4) Travel agents use ICT to present information and real time service to consumers. Meanwhile, the travel agent reduce the role of traditional distribution channels, therefore, they change their role to be a tourism consultant. Focusing on complex tourism products which is difficult for tourists to deal with.

English Tourism Council (2002) has discussed the potential use of Electronic business (e-Business) in tourism industry. Tourists were going to increase in number of using smart phone. They were easy to reach tourism product via website. e-Business affects a significant relationship with the tourism intermediaries. Travel agent began to realize that they have to compete with the suppliers. Tourism product and service are very complex and require a combination of information .

Since 1990, the tourism online commerce had rapidly changed from Business to Business (B2B) to Business to Consumers (B2C). The B2C format is a direct contact between tourists and tourism service providers through the site without going through the traditional agencies (Buhalis and Licata, 2002; Deitel and Harvey M,2001). Therefore, disintermediation phenomenon can be summarized as follows;

- 1) Disintermediation : Most product can be sold directly to customer who use internet. The Internet is widely used as a tool to distribute updated content.
- 2) Re-intermediation : e-Intermediaries will replace the traditional media.
- 3) Opportunity to build relationships with customers by installing new systems such as eCustomer Relationship Management (eCRM), the mileage traveled for frequent flyers.

- 4) The development of tourism suppliers who have been affected by the cutting process of disintermediaries and re-intermediaries . Suppliers will modify their service to suit the customer requirement such as personal contact with customer.

Moreover, English Tourism Council (2002) gave the meaning of “eTourism” . The term “eTourism” is used in this document to refer to e-business in the field of travel and Tourism. For instance, the use of ICT to facilitate tourism providers and destinations to operate more professionally, and to achieve and serve consumers more effectively with amenities to search, evaluate and reserve tourism products and service.

The World Tourism Organization report, ‘E-Business for Tourism’, explains the concept of e-business as follows: ‘...for tourism destinations and businesses, e-business is about realizing the opportunities of improved connectivity both externally, through the Internet, and internally, through intranets.

St. Maarten (2004) described that e-Tourism is a dynamic interaction between information communications technology and tourism, as a result of the technological revolution that came to market process and tourism distribution channel.

E-tourism Includes all business functions from eCommerce, eMarketing ,eFinance, eAccounting, eHRM, eProcurement, eStrategy, ePlanning ,and eManagement. It revolutionizes tourism industry and its whole value chain as well as strategic relationships of tourism organizations with all their stakeholders.It uses intranet to reorganize inside procedures and extranet to develop operations with reliance on partner and the internet for the interacting with all its stakeholders. Therefore, we can conclude that eTourism is increasingly more significant in determining the competitiveness of an organization. In the long term, it is significant for the competitiveness of the industry.

Summary

The present world is trying to find a new structure of society and economic since tourism is making progress rapidly it creates better knowledge and understanding than the ones we had in the past. Dynamic forces are operating with incredible forces today. With the miracles of transportation and communication, this world is now compared as a ‘global village’.Therefore, this section provides the concept of the nature of tourism in

21st century ,trend, growth and development. Particularly, focusing on eTourism – the new term of tourism that defines the characteristic of this industry very well in this present day.

This research also emphasizes on online travel agency business (OTAs) which specializes in offering planning sources and booking capabilities via internet, with more consumers using the internet to plan their vacation getaways. Aside from booking travel packages, many travelers go online in search of travel reviews before making a final decision about their choices. Moreover, Increasing in independent traveller an “Do It Yourself: DIY” style of traveller lead them to need accountability and flexibility information to support their idea for decision making. The phenomenon mentioned above was the reason why online travel agencies have been growing in popularity, helping to increase business in the travel industry overall. This business becomes the major part of e-Tourism and brings suppliers to meet customers in tourism supply chain which is described in Section2.2

2.2 Tourism Supply chain

2.2.1 Tourism supply chain

b) Defining Supply Chain Management

“Supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, conversion and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners which can be suppliers, intermediaries, third party service providers and customers. In essence, supply chain management integrates supply and demand management within and across companies.”

Source : Council of Supply Chain Management Professionals (CSCMP),2013

The consideration of Supply Chain Management (SCM) arrived from late 1980s, which had been extensively applied in the manufacturing industry. A supply chain consists of all parties, directly or indirectly, in fulfilling customer requests. A supply chain does only not comprise manufacturers and suppliers, but also transporters, warehouses, and retailers. A supply chain also includes all functions in new product development, marketing, operating, distributing, financing and customer

services.(Chopra and Meindl,2004) Most supply chains are networks which engage a multiplicity of stages. The more exact terms to describe the structure of supply chains would be supply networks or supply websites. Supply chain stages include customers, retailers, wholesalers or distributors, manufacturers, and suppliers. According to 21st century, the concept and practice of supply chain management began to extend gradually to service industry. There are several resemblances between each stage of service supply chain and that of object supply chain. The service supply chain had some difference on the method applied and relative importance connected on each part, another difference between them is the service supply chain regularly takes the customers as the vigorous contributors of the service process. The recent advancement of information technique facilitates the service supply chain to integrate customers in an extremely straight manner. This integration offers the firm with chance with the purpose of developing new knowledge management strategy created by integrating customers. These strategies provide prospect that improves service quality when reducing the service cost. As the representative of service industry, tourism supply chain owns special formation which is described in next section.

b) Specify a generic tourism supply chain

The United Nation World Tourism Organization (UNWTO) published a report on the “Distribution channels” of the tourism industry (UNWTO,1975) and this distribution channels was narrowly defined as a tourism supply chain (Zhang et al,2009). Tourism supply chain (TSC) is defined as a network of tourism organizations engaged in different activities ranging from the supply of different components of tourism products/service and involve a wide range of participants in both the private and public sector.

The supply chain involves the suppliers of the goods and services that deliver to the customers. It includes all suppliers of goods and services whether or not they are directly contracted by tour operators, OTAs or tourism suppliers includes accommodation and transportation providers . In fact, not only focusing on OTAs who play the intermediaries role, but also considering the entire tourism domain. We will find that tourism supply chains engage many elements such as accommodation, transport, excursions, bars and restaurants, handicrafts, food production, waste disposal

and the infrastructure that supports tourism in destinations (Morrison et al.,2004) (see Figure2.4).

Supply chain have business-to-business relations. Supply chain management provides sustainability and financial performance development by improving business procedures of each supplier.A good example of supply chain management is BandQ, a DIY retailer, who invented and develops a major supply chain management program (Green et al.,1998). DIY addresses ecological impacts, and community impacts, its 40,000 products. To evaluate overall sustainability, BandQ analyses its products from raw materials, suppliers, suppliers of suppliers, all the way back to the sources of internal business procedure. For BandQ, the For BandQ, ethics in its products are a significant part of sustainability and quality.

At present time, Online intermediaries have massive power over activities all over tourism supply chain since they guide and influence tourism volume, destinations, and facilities. The main dissimilarities between tourism supply chains and other sectors are that tourists have to travel to products and high service components in products purchased by tourists – that is it entails more people to instantaneously produce for holiday experiences. Page(2003) indicate that the condition of tourism commodities engage a broad array of interconnected tourism suppliers, and design a formation of a tourism supply chain. Additionally, TSC has dynamic characteristics and high combination of each tourist enterprise in supply chain structure based on information communication technique. Each node enterprise on TSC can work concomitantly based on the high incorporation, harmonize each other's advantages and make practical honesty. (Zhang, 2008). A further aspect of the tourism supply chain is the tourists from target market, mainly in relation to their consumer behavior. They are more learning and experience- oriented tourists, more technology and digital-friendly . Other change in the demand profile of consumers is that they are changing preferences of destinations and length of stay for travels, demanding various tourism types. This type of consumers have high impact to tourist enterprise.

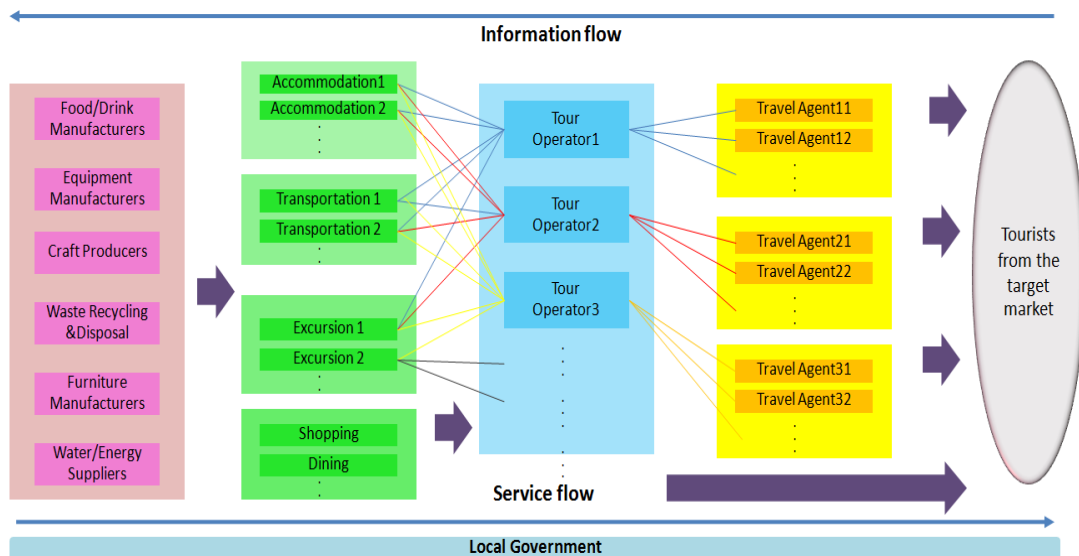


Figure 2.4 Tourism supply chain component

Source: Zhang et al ., 2009

It is typically said that they are not traditional consumer any longer. They are “Prosumer”. The word prosumer is a portmanteau formed by constricting the word **professional** or **producer** with the word **consumer**. The term has taken on many differing meanings: the business sector sees the prosumer (professional–consumer) as 21st century market segment. It can also be consideration of as contrary to the consumer with a passive role in tourism sector. The role played of tour operator , Travel agent and OTAs changes according to prosumers and market dynamics. Each market has dissimilar technological, culture,law, demographic and buying dynamics.. These intermediaries can play a significant role in providing appropriate information both online and offline to their customers about local products and services.

c) **Tourism supply chain elements**

Accommodation

Accommodations are discovered to be important trait of tourism product. Accommodation makes impermanent living sections for guests through a diversity of sources, including hotels, bed and breakfasts, self-catering, apartments, campsites and cruise ship. The location factors are found significant. It is necessary that those hotels are easily reached to the tourist's places .Whereas developing quality of services should be brought into focus because unplanned improvement of accommodation sector can impede the valuable holiday experience of the tourist. As the consequence of ICTs,

accommodation business use internet as their distribution channel. They create their own website for brand-directed customer at the same time as using OTAs to enhance opportunity of selling.

Transport

The constituent of transportation can be classified and positioned into two broad categories: surface and air. Transportation is always an intermodal with travelers relying on numerous dissimilar modes of transportation to attain customer last destination. The tourist should be offered secure, speedy, suitable and economic transport services. The amount of tourists to a country also depends on the ease with which tourists are able to get visas through immigration procedures. All travel distribution channels were primarily transformed by the beginning of internet but, none perhaps as much as airline industry. Airline industry has used the Computerized Reservations Systems (CRSs) in the 1970s and Global Distribution Systems (GDSs) in the late 1980s to support air ticket selling process. Booking engine permitted travelers to compare available airline inventories by price and schedule.

Catering, food and beverage

There are many types of food and beverage operations designed to serve tourist. Food service operation range from free-standing roadside restaurants that rely on drop-in customers to on-site accommodation restaurant that serve a traveler. Local foods are used by tour operator as one of the tourist attractions of their packages. Catering ,food and beverage can make substantial income for the local population. Catering ,food and beverage producers must guard the safety by paying attention in details and keeping customer service in mind.

Attraction

Tourist attractions are places with cultural values, historical significances, amusement opportunities, and etc. visited by tourists, which could be historical places, monuments, zoos, aquariums, museums, art galleries, botanical gardens, buildings, national parks, theme parks, historical railways, and cultural events. Many tourist attractions are landmarks of the cities they are located in.

Destinations

In relative to the tourism supply chain and straight contribution to tourism, destinations make available infrastructure and services. Destinations are grouped in each of these categories face with marketing, management and financial opportunity and challenge. Destination is key success factor of tourism, however, many destinations encounter seasonal shift of demand. Destination Management Organization (DMO) from public and private section use ICTs to reduce the effect from shifting pattern in demand and balance tourism supply chain with their professional services, such as possessing extensive local knowledge, expertise and resources, specializing in the design and implementation of event and logistic.

2.2.2 Customer Relationship Management and its component

a) Customer Experience Management

Interest in the concept of customer experience management (CEM) in contemporary literature is currently high. This interest is partly sparked by what Palmer (2010) notes as CEM being heralded as the successor of customer relationship management (CRM) as the latest step to create added value to customers. It can be said that Customer Experience Management (CEM) is a strategic management process which carefully uses customer experiences on products, brands, and organizations more than Customer Relationship Management (CRM) since CEM focuses on planning workflows in customer service processes, including production processes to ensure that the customers will have satisfying experiences with the products and services from each organization during the lifetime of the products and services. This satisfaction creates positive customer experiences and develops to loyalty in the brands.

The customer experience itself is conceptualized as a psychological construct, which is a holistic, subjective response resulting from customer contact with the retailer and which may involve different levels of customer involvement (Gentile et al., 2007; Lemke et al., 2011). Stuart and Tax (2004) argued that customer experiences are enhanced by designing a service system for more active customer participation. Bate and Robert (2007) introduced an approach to involve customers in experience-based design. Pickles et al (2008) developed a method to demonstrate three theoretical components of good design: functionality, engineering, and aesthetics. These

components are to improve performance, safety, and governance. For more strategic and holistic experience design approaches, Carbone and Haeckel (1994) broke down experience design into four phases; 1) acquisition of experience design skills, 2) data collection and analysis, 3) service clue design, and 4) implementation and verification. These approaches, even from the same author, do not seem to be supported by evidence-based researches of what organizations have done and the impacts from such doings. Thus, the objective of this research is to investigate how organizations design and improve customer experiences.

To provide satisfactory customer experience, companies try to develop whole packages of experiential marketing strategy consisting of various stimuli designed to be touch points with the firm (Swinyard, 1993). These strategies need to be designed whilst keeping the customer's values and needs in mind in order to maximize the potential to attract customers to interact and be involved with the product or service and providing excellent emotional and physical experiences. The Internet allowed for a lower barrier of entry towards implementing a relationship-centric strategy thus transforming relationship marketing into a ubiquitous element of products and services (Ngai, 2005). The implementation of an effective customer relationship strategy was also hindered by the internet's ability to empower consumers into online communities where they can talk to each other and share their positive or negative experiences, often without the company's involvement. (Duan et al, 2008; Vermeulen and Seegers, 2009). Managing commercial transactions via the Internet is a two-way communication between an individual and another to deal and trade. Smith (2003), Gummesson (2002) Ryals and Knox (2001) stated that information technological tools in relationship management can be various depending on customers, such as customers' shares, which depend on specific values, customer behavior prediction as a support process, which has decent elementary information technology management, and architecture as an essential part in efficient communication of organizations as well (Zikmund et al, 2003). Therefore, the database should be able to reach each employee in order to perform customer buying behavior analysis (Woodcock et al., 2003).

Online Travel Agencies (OTAs) are websites that facilitate tourists in buying tourism products. Each tourism company realizes competition with minor distributors since tourism products and services are sometimes complicated with diverse

information technology. In 1990, online tourism commerce has changed from Business-to-Business (B2B) to Business-to-Customer (B2C) system. Business-to-Customer system or B2C is a direct communication process between tourists and distributors via websites with no agencies (Buhalis and Licata, 2002). When a customer reserves products and services, OTAs activate their experiential marketing strategy under the CEM concept which is designed to attract customer to interact and be involved with the product or service, and specifically designed make the customers experience favorable responses, either through direct contact or indirect contact with the company through the intermediaries that connect them (Gopalani and Shick, 2011). These interactions will result in customer experiences with the provider. Interaction can be classified to three phase of customer changing experience; pre consumption, actual and post consumption. When comparing this experiential marketing strategy with Customer Experience Cycle (CEC), we will find 1) pre-consumption – advertising by any means of media to make customers interested in the products and services, 2) actual consumption - decisions to buy and purchasing processes receiving and using products and services, or entering services and experiencing the cycle, and 3) post-consumption - surveying for problems and the expiration of service and product contracts.

b) Customer Service Life Cycle Management

Buying products and services via websites helps businesses gather, preserve and analyze information from various sources and creates a customer database for companies to target specific groups of customers or make online promotions and campaigns – e-mails, SMS, WAP and newsletters. For OTAs, when a tourism product or service is bought on a website, customers will be asked to fill out personal details and information in a provided form. Customers can create and edit their personal and travel information, then select a type of information they wish to receive and travel frequencies. Most tourists pay attention to the price. When they buy tourism products and information online, they wish to compare the price, get a discount, which is not offered in the former distribution system, and after-sales services, which are reporting and confirming reservations with the customers by e-mail notifications.

Customer Service Life Cycle Management is a concept based on customer relationship management. This concept was first presented in 1984 by Ives and Learmonth. CLSC focuses on customers' needs and how to offer services that meet their

needs or until they are satisfied. Customer Life Cycle Management by using 4 major steps of CSL consists of requirement, acquisition, ownership and retirement, with 13 minor steps under CSL which Burnstine (1980) established and called “11 Stage Resource Life Cycle”. Later, Ives and Mason (1990) added training and evaluation to CSL, which made it 4 major steps with 15 minor steps as the follows: Requirement, consists of needing and specifying; Acquisition, consists of sourcing, ordering, paying, obtaining and installing; Ownership, consists of training, monitoring, maintaining and upgrading; Retirement, consist of replacing, evaluating, reselling/returning and accounting.

For the purpose of this study, CSL was defined as the following: Requirement is customers searching for tourism products and services they prefer; Acquisition is customers ordering and making a purchase with OTAs by choosing tourism products and services they prefer; Ownership is the time spent by customers in traveling and using products and services they have made reservations for; Retirement is customers finishing their trips. The 15 minor steps were properly applied to online transaction contexts for tourism.

c) Customer Relationship Management

Customers are the center of businesses, because they are the ones who benefit organizations and help them survive in competitions (Lindgreen et al, 2006). Relationships with customers can be in long or short terms. (Gummesson, 1996) Long-term relationships with customers always benefit and bring more income continuously to an organization. In the meantime, the said organization will need lower capital to save these long-term relationships. Zablah, Bellenger, and Johnston (2004) stated that the concept of customer relationship management consists of processes, strategies, capabilities, performances and technology. Currently, technological tools are used to add more efficiency to CRM processes.

Customer relationship management also means processes and technology used to manage relationships with both current and future customers, including partnerships from marketing, sales and services. The highest aim is to satisfy customers and partnerships and help organizations have a better understanding about their customers, which will lead them to preserving good relationships with their customers (Zigmund et al.,2004). The features of CRM are relationship management, selling by the use of

technology and opportunity management. Customer relationship management focuses on 3 major principles, which are 1) Customer Acquisition – adding highlights to new products or innovations and presenting customers their convenience, 2) Customer Satisfaction – processing quickly by using technology and 3) Customer Preservation – doing all it requires to make customers stay with an organization and bring customers back to using their products or services by collecting customers' and employees' suggestions on new products and services.

OTAs businesses have been using technology to service their customers in reserving tourism products and services. The use of technology to create eCRM come in 4 levels, which are as follows:.

Functional CRM Level is a creation of Inter-network business models by bringing each department in a business together and using a technological process to predict sales, send e-mails and service its customers via websites to accommodate the customers in completing online transactions.

Departmental CRM Level is a coordination of an organization by using intradepartmental synchronization via several technologies such as Sales Force Automation and Call Center. This structure is applied in a department to better service its customers without building much relationships with the customers.

Partial CRM Level is a work in intradepartmental synchronization level which uses customers' information between departments, e.g., sales department and marketing department share their customers' information together.

Full Integrated CRM Level is the level where each department shares customers' information, strategies and processes. Real-time data analysis, technology and staff are used carefully. This structure influences better customer services. Full Integrated CRM is a change of consumers to long-term customers by communicating and delivering values to these consumers (Kotler and Keller, 2006).

Nowadays, CRM has turned to modern technology for help by conducting e-Commerce. The Internet supports customer relationship management strategies in 3 ways - sending information to customers, receiving information from customers and selling via e-Commerce (Anderson and Carol, 2545). The mentioned method creates information transactions and financial transactions which are used by OTAs as a

customer database. Several internet-marketing strategies are used to promote websites and can be easily accessed by customers. The other means are search marketing, search engine optimization, advertising through search engines which make a business pay every time when customers click on the search box and advertising through search engines.

Summary

The concept of this study is to find OTAs businesses that apply CEM methods, which are 1) Customer Database Management, 2) Service Designing, 3) Service Operation, 4) Complaint Handling and 5) Service Improvement. These 5 steps manage Customer Experience Cycle by making CSLC suitable to the needs of the customers. The application of CSLC to Customer Relationship Management (CRM) of OTAs give feedbacks to Supplier relationship management by selecting the proper supplier to match with tourists demand.

2.2.3 Supplier relationship management

a) The importance of supplier relationship management

All tourism organizations will need to have relationships with many suppliers, distributors, competitors, partners, governments, and other firms with complete activities. This is very comprehensive affiliation. A review of the literature shows that relationship management (Yilmaz and Bitici, 2006 ; Geneshan et al., 1999) is the method to solve coordination-intensive problem in tourism supply chain. As a result of relationship management, tourism businesses get better accomplishment in their operations and fulfill customer and supplier needs. Furthermore, tourism products are unpreserved with relatively fixed costs paid in advance to increase capacity, while other variable costs during a production process are low. Another research shows how coordination among partners in a supply chain (Buhallis, 2001) from the earlier stages of product development leads to success in mass customization. Not only relationship management has been considered to help tourism business gain more profit, but also the development of new commercial formats such as eTourism (Lafferty and vanFossen, 2001) strategies for firms to enhance their competitiveness. The extent research concluded that the collectivity and shared purpose associated with social

capital help to establish suitable practices between firms (Theuven,2005) Research has suggested that practices may range from general information sharing of codified information to the sharing of tacit knowledge. However, there is still no attempt to propose literatures of tourism management frameworks and models (Chen et al.,2001)which can assist the tourism companies, evaluate and control the overall tourism supply chain.

Coyle et al. (2003) said that cooperation between partners is a critical element of success in supply chain management, and leading to the highest goal of supply chain management is the management of all supply chain throughout the Organization as one organization. The coordination and cooperation between the partners has been mentioned widely. To create relationships within the supply chain must also have exchange and share information, including share strategies, and planning. Currently, many organizations around the world have attempted to create a tight relationship with supplier due to supplier management affects customer relationships and also to reduce the total cost supply chain throughout creating a competitive advantage.

b) Create supplier relationship management

“... monitoring supplier health and performance, working collaboratively to provide innovative solutions for customers’ needs, and creating a team oriented environment.”

Source: Procurement Strategy Council/Corporate Executive Board,2012

During the past two decades, many organizations were trying to create business partners with supplier(Cannon and Perreault, 1999; Ganesan, 1994).. A concept in association with the supplier is very interesting in 1980 when a company in Japan has created a close relationship with supplier. Regarding the operation, it was found that a close relationship with supplier is important element to lead to the quality of raw materials. Fast delivery and continuous updating, then other companies used this supplier relationship strategic, for example, Xerox, Honeywell, Polaroid, Motorola, IBM, etc. (Leenders, et al., 2006)

Tennyson et al. (1998) referred that “the relationship with supplier is cooperation between two companies or more which agrees to work together to strive towards for sustainable business and this relationship must have the exchange in terms

of risk and benefit'. Considering how the relationship with supplier is important for the organization greatly because a supplier has directly affected to the financial status and ability to generate profits of companies' buyer and supplier. Also influence to the cost of new product development, inventory quantities, production schedule, and delivery schedule. Organizations most often contact to trade goods and services with many suppliers. However, the guideline to manage the relation with supplier will be varied. An efficiently purchasing management must be given appropriate strategies to a supplier. (Gelderman, 2000)

First conceptualized by Cooper and Garn (1993), in their conclusion, mentioned various types of supply chain relationship, from an arm's length supply chain relationship - a relationship occurs via the market where price is the main factor purchase decision making - to a full vertical integration supply chain relationship - a relationship where a buyer and a seller have a close relationship which is caused from having the same ownership or both are from the same cooperation

Supply chain business process integration incorporates collaborative work between buyers and suppliers. This includes joint product development, common systems and shared information. According to Lambert and Cooper (2000), a continuous information flow is required for operating an integrated supply chain. In many companies, management optimizes product flows by implementing the key supply chain processes - starting from Customer Relationship Management to Customer Service Management, Demand Management Style, Order Fulfillment, Manufacturing Flow Management, Supplier Relationship Management, Product Development and Commercialization, and Returns Management to their businesses.

This research emphasizes on Supplier Relationship Management that leads to supplier selection process, technique and knowledge. The Figure 2.5 illustrate Supplier Relationship Management Business Process Integration

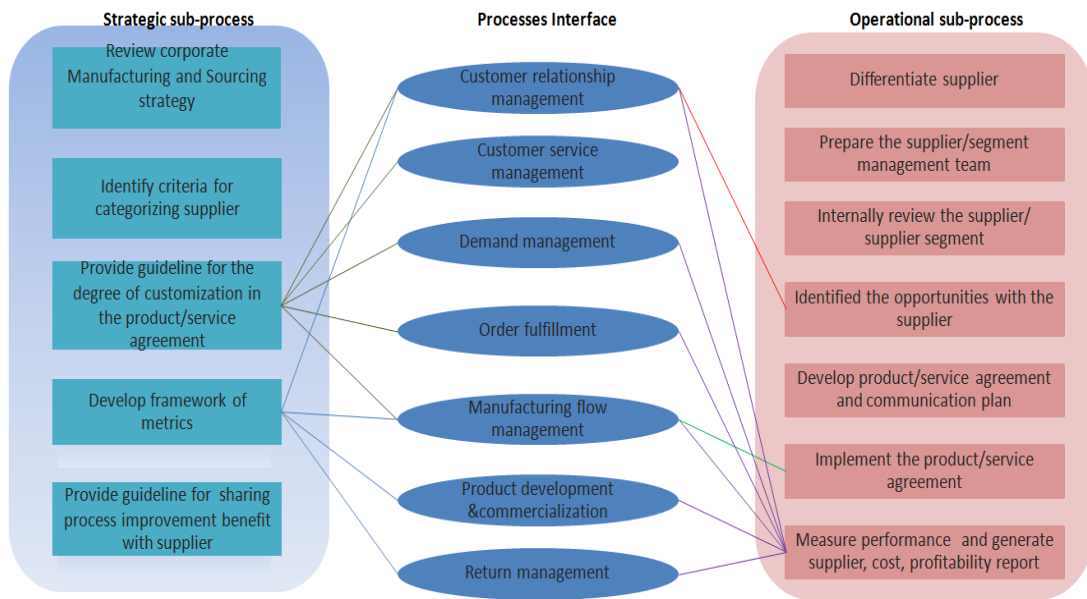


Figure 2.5 Supplier Relationship Management Business Process Integration

Source: Douglas et al.,1998

Supplier Relationship Management business process integration can be described in detail about the activities under each strategic sub-process (Figure2.6) and operational sub-process (Figure2.7).

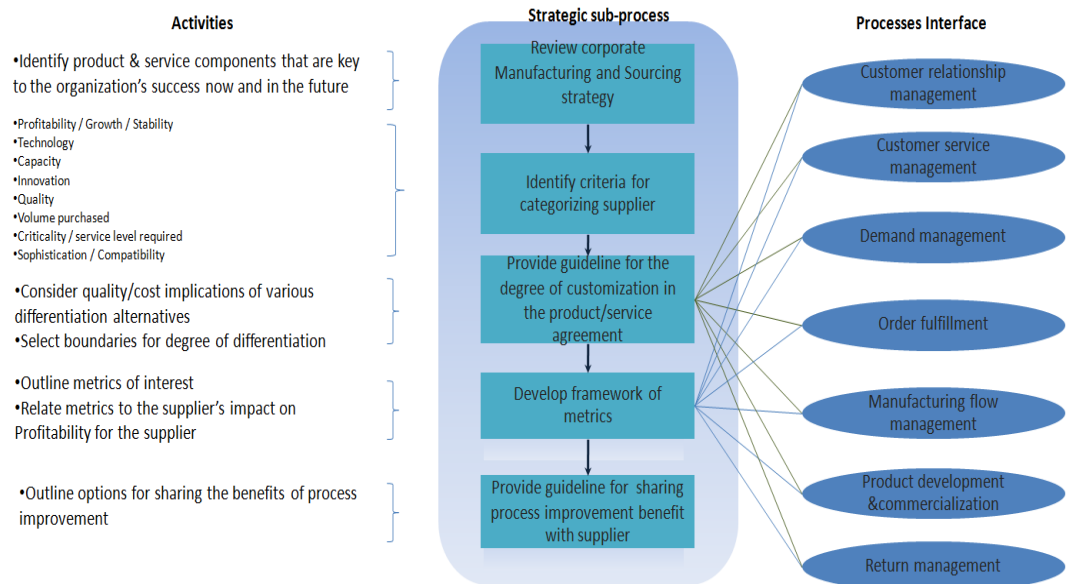


Figure 2.6 The Strategic sub-process of SRM

Source: Douglas et al.,1998

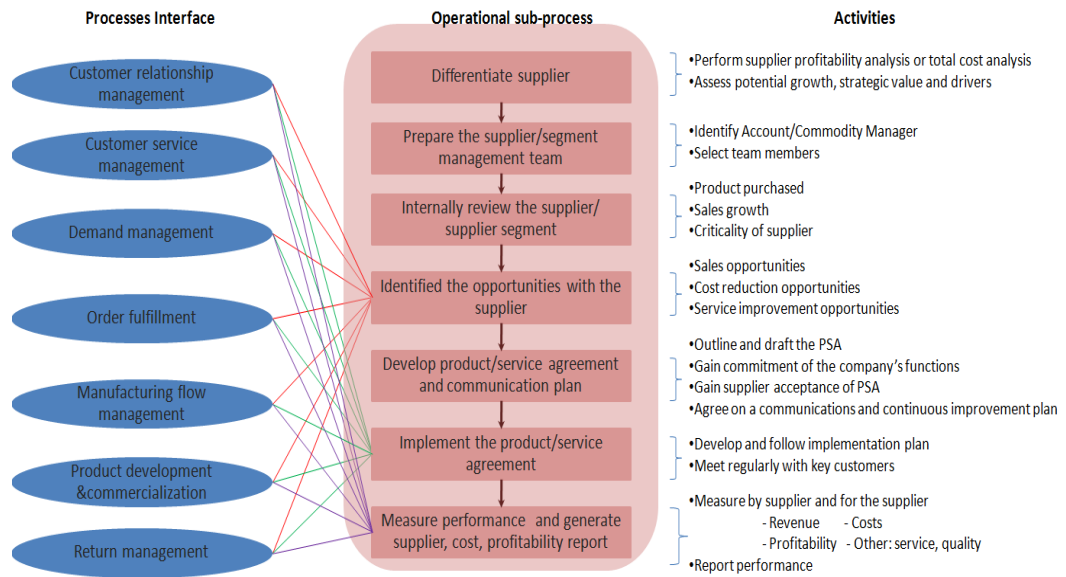


Figure 2.7 The Operational sub process of SRM

Source: Douglas et al.,1998

OTAs uses the SRM process to cope with supplier relationships. It is possible to identify how SRM affects EVA (Figure 2.8). The relationship may generate more revenues through cost reductions, lower consumer prices, and improved quality obtained by working with a selected group of suppliers. The cost of goods sold and cost of service may be reduced through the leveraging of high commission and low channel fee and low transaction fee, the ownership of inventory is always responsible for the supplier that make OTAs have no inventory carrying costs for the total supply chain.

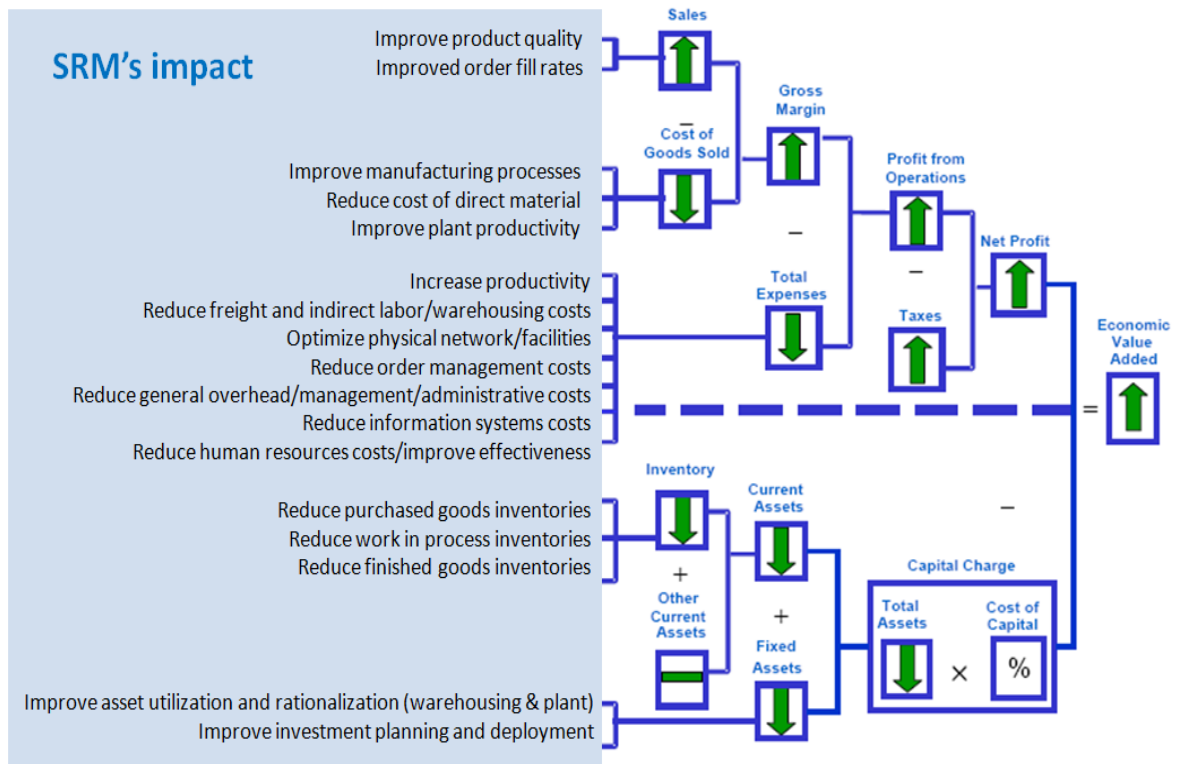


Figure 2.8 SRM affects EVA

Source: Douglas et al., 1998

Harrison and Hoek (2001) described the supplier relationship in 3 types of partnership; cooperative, coordination and collaborative. As can be seen in Figure 2.9, displays the weight of the supply chain relationship. The arm's length relationship has the least weight of supplier relationship while the full vertical integration relationship has the most weight. The weight of each relationship affects different types of development. If the weight between the buyer and the seller is high, the development is even more so driven. In every one organization, the relationship between the buyer and seller has different form; hence supplier management should behave differently. By having a reactive supply chain management, the organization can make efficient purchases, hence the benefits of having different tools and methods classifying suppliers.

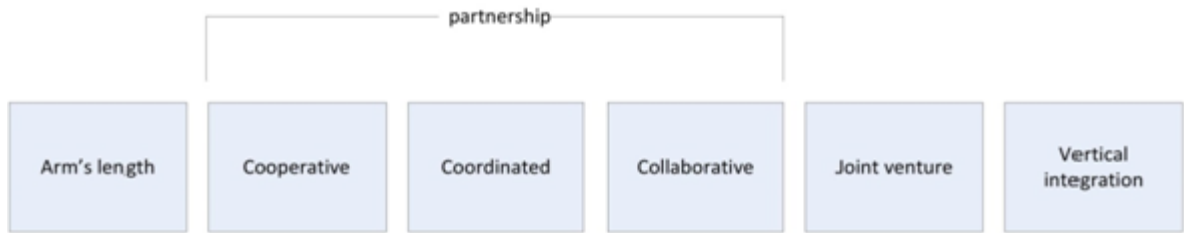


Figure 2.9 The supplier relationship type

Source: Harrison and Hoek ,2005

By the relationship of the supplier for each category will have its type and period in developing a different relationship, which is shown in Table 1.

Table 2.1 : The type of relationship of each level.

<i>Types of relationship</i>	<i>Activities</i>	<i>Time Duration</i>	<i>Scope of affiliation</i>
Cooperation	Low number of suppliers with a long supply contract.	Short	Single
Coordination	Multimedia communication and exchange of business information electronically.	Long	Multiple
Collaboration	Introduction of supply chain management, collaborative planning, share of technologies.	Long with no deadline	Businesses are transparent from one another

Source Harrison and Hoek ,2001

Table 1 shows the cooperation on the level of Cooperation which will focus on purchasing with a small number of supplier by the long term contract. This level is between the purchasing department of both buyer and supplier and use a short term period to develop a Cooperation but the relationship of Coordination would take a long time to develop relationships due to it must have linked information system, including the exchange of information between companies in several organizations. For the Collaboration relationship is a relationship that requires a long development period for the success, and must continue to develop with no deadline. Because of need to have a plan of operations, technology sharing, it lets companies of supplier and the buyer transparent as their own companies.

Summary

Tourism Supply Chain seems like a new research agenda in tourism sector (Zhang et al,2009).Actually, this sector has many participants and they establish strategic alliance with many others to provide service or compete with others “Competed vs Patronage” become common relationship in tourism sector. Online travel agencies perform an important intermediary role in tourism sector. OTAs have the relationship with both customers and suppliers. This research aims to study the supplier selection process that leads them to have relationship with suppliers

The supplier relationship management process provides the structure for how relationships of OTAs with suppliers will be developed and maintained. This relationship could be developed to be partnership. The partnership building is only a first step in a challenging but rewarding long-term effort to fit online travel agency business relationship for enhanced results.

2.3 Selection technique

2.3.1 Procurement/ Outsourcing

The supplier outsourcing is particularly important to increase the competitive advantage and make business successful. Therefore, to improve the outsourcing process optimization to achieve maximize profit, it's important to be aware of supplier outsourcing policy, responsibility of the supplier selection and supplier selection processes, which are the following;

a) Definition of outsourcing

Weele (2006) provides a means of procurement which is to manage external resources of an organization; service capabilities and knowledge, which are important in maintenance, primary and support activities in order to gain maximum benefit. Leenders et al. (2002) noted that the term “purchasing” is a process of buying. This study needs in order to meet the requirements, sourcing, supplier selection, and price negotiations. To track shipping and follow up with payment, purchasing, supply management and procurement are used to provide acquisition of supplies and services efficiently and effectively within an organization.

b) Outsourcing Objectives

In addition, Trent and Monczka (2005) also identified the purpose of outsourcing of the purchasing agency, details of which covered more than the original outsource. The objectives are as follows.

- 1) Support operational requirement
- 2) Manage the purchasing process efficiently and effectively.
- 3) Select, develop, and maintain source of supply.
- 4) Develop strong relationships with other function groups
- 5) Support the goals and objectives of the organization
- 6) Develop the outsourcing strategy to support corporate strategy

c) Outsourcing process.

Monczka et al., (2005) describes six key processes of outsourcing.

- 1) To determine the product or service user
- 2) To evaluate supplier.
- 3) Bidding ,negotiation and suppliers selection.
- 4) Approval of purchase
- 5) Release and receive purchase requirements.
- 6) Measure supplier performance

Leenders et al., (2006) explained that the outsourcing process is the process of communication of the need for commodities to supplier. This is the key to performance and effectiveness in the management of supplies (Supply Management Process). The steps are as follows.

- 1) Recognition of need.
- 2) Description of need.
- 3) Identification and analysis of possible source of supply.
- 4) Supplier selection and determination of terms
- 5) Preparation and placement of the purchase order
- 6) Follow-up and / or expediting of the order
- 7) Receipt and inspection of goods.
- 8) Invoice clearing and payment
- 9) Maintenance of records and relationship.

2.3.2 Supplier selection technique

Supplier selection is a set of competencies, tools and techniques that support the overall SRM process. Supplier are selected and evaluated on several criteria such as price, timeliness, costs, product quality and service (Buhalis,2003) There are limited issues in supplier selection . To assess the ability of suppliers to select the most appropriate suppliers is very important. Supplier selection is subjected to challenge to management because it is difficult and complex problem. Suppliers selection has factors or criteria when consider, for example, quality of materials, or equipment or lead time, a unit pricing, flexibility in delivery, frequency, and the lot size that can be delivered, cost of freight, consignments on time, ability to share information, ability to collaborate in the design, the import tax/exchange rate of the currency, and the stability of business of the supplier.

Currently, we may divide how to evaluate or rate the ability of suppliers into 3 ways (1) General method for selection technique, (2) Multi-criteria supplier selection models and (3) Simulation-optimization.

a) General method for selection technique

The common methodology to solve supplier selection problem

Table2.2 General method of selection technique

<i>Evaluation technique</i>	<i>Author</i>
Total cost approach	Harding (1998) ,Porter (1993)
Multiple attribute utility theory (MAUT)	Min (1994), Von(1993), Bard (1992)
Multi-objective programming	Kumar(2002),Weber(1993)
Total cost of ownership (TCO)	Ellarm (1995)
Analytic hierarchy process (AHP)	Barbarosoglu and Yazgac(1997),Hill
Data Envelop Analysis (DEA)	Narasimhan et al(2001),Weber and Desai (1996), Weber et al(1998)

Total cost approach: in the total cost approach, the quoted price from each vendor is taken as the starting point and then each constraint being considered is replaced by a cost factor and the busiess is awarded to vender with the lowest unit total costobtain the profit maximising output quantity, we start by recognizing that profit is equal to total revenue (TR) minus total cost (TC). Given a table of costs and revenues at each quantity

Multiple attribute utility theory (MAUT): MAUT is a most useful vendor selection technique that deals with international vendor selection since it can handle multiple conflicting attributes.

Multi-objective programming: is an additional flexibility that allows varied numbers of vendors to solutions and suggests volume of allocations. This method, however, is still complex to obtain solutions.

Total cost of ownership (TCO): is a method and philosophy that looks beyond purchasing price and include many other purchasing costs. TCO models are categorized by their usage, which are vendor selection and evaluation. TCO is a financial estimation that helps customers and managers consider direct and indirect costs or systems. It is also an accounting management concept used in full cost analysis or even ecological economics when social costs are included. TCO is often compared with overseas businesses in the aspect of manufacturing since it goes beyond initial manufacturing time and cost cycles.

Analytical hierarchy process (AHP): is an approach used in multifactor decision-making especially when subjective and/or qualitative considerations have to be made. It provides structured approaches that determine scores for the criteria in decision making.

B) Multi-criteria supplier selection models

Multiple criteria decision making (MCDM): is a sub-discipline of research operations that considers decision-making environments of the criteria. There are always conflicting criteria that needs to be evaluated whether in personal lives or professional settings.

b) Multi-criteria supplier selection models

selection is a multi-criteria problem. Instead of using multi-criteria techniques to solve this problem, it is converted to a single- objective problem by treating only one objective as a constraint and solving it to obtain only an optimal solution. The problems with this approach are 1) the criteria, which are counted as constraints, are weighed equally which rarely happen in actual practices and 2) the significant problems in qualitative factor considerations.

Table2.3 Multi-criteria supplier selection models

<i>Evaluation technique</i>	<i>Author</i>
Decision support system by integrating AHP with linear programming	Liu et al. 2000 and Ghodspour and O'Brien 1998
Multi-objective linear Programming	Weber and Current 1993

Decision support system by integrating AHP with linear programming :

This type of supplier evaluation technique is the integration of standard form of AHP and Linear programming to analyze complex decision. **The Analytic Hierarchy Process (AHP)** is a structured technique for organizing. Based on mathematics and psychology, it has particular application in group decision making .While, linear programming is a mathematical method to achieve the best outcome (such as maximum profit or lowest cost) for some requirements presented in linear relations. It is a specific case of mathematical programming. Multiple-objective linear programming is a **Multiple-objective linear programming**: is generalization of linear regression by analyzing up to two independent variables with specific cases of linear models from restricting dependent variable numbers into one

c) Simulation-optimization

A few years ago, simulation-optimization researches focused mostly on theory development. Fu (2005) pointed out the need of algorithms the take advantages from theoretical results with flexibilities and applicability to real-world problems.

Table2.4 Simulation-optimization selection models

<i>Evaluation technique</i>	<i>Author</i>
Random search	Alrefaei and Andradottir(2005)
Response surface methodology	Barton(2005)
Gradient-based procedures	Fu(2005)
Ranking and selection	Kim and Nelson (2006)
Sample path optimization	Rubinstein(1993)
Metaheuristics	Olafsson(2005)

Random Research (RS) is a numerical optimization method that can be used on non-continuous or differentiable functions without any gradients of the problems. It is also known as direct-search, derivative-free, or black-box methods.

Response Surface Methodology (RSM) finds the relations between explanatory variables with one or more response variables. The method was first

introduced in 1951 by G.E.P. Box and K.B. Wilson. The main idea is to use designed experiments to obtain optimal responses. They suggest using a second-degree polynomial model in this case because this model makes it easier to estimate and apply even when it is only an approximation and the processes are known but a little.

Ranking and selecting is a relation between a set of items with the first one ranked 'higher than', 'lower than', or 'equal to' the second one. In mathematics, this is known as a weak order or a total preorder of objects, but it is not always true since two different objects can be in the same rank. For example, a material is preordered by hardness, while the degree of hardness can be fully ordered.

Metaheuristic designates a computational method that optimizes problems by developing a candidate solution with a given quality measurement. Metaheuristics make barely any assumptions on a problem being optimized and are able to search for candidate solutions in very large spaces. However, the optimal solutions are not always found. Some metaheuristics implement stochastic optimization.

2.3.3 Evaluation capability

To avoid a failure resulting from deciding suppliers who do not have performance, executive, specifically purchasing department, requires to have strategic offense for use in searching or setting the properties of the supplier to refine the qualification of supplier (Supplier Qualification Screening), primary goal is to reduce the probability or possibility that there will be a supplier without performance or lack of qualification to sneak into the evaluation process. The secondary goal of screening the supplier is to make sure that the supplier organization is formal transactions by there will be a partner with responsibility and can respond needs with efficiency. In assessing the ability of the supplier, evaluator must define the dimensions or factors that are used to evaluate suppliers which has several factors as described in the topic. Therefore, to assess the ability of suppliers is known as the criteria are at issue in the decision (Multi-criteria Decision Making Problem). However, the first three dimensions are often used to estimate the most is the price, quality and ability to deliver in time and by quantity ordered. When define the factors for further assessment, must score each factor of each supplier to sort capabilities and selected suppliers who have highest score or rated the quantity by scores' proportion.

The measurement method based on experience is based on feelings (Subjective Based) of the assessment. Each evaluator might evaluate the weight and rate a different point for each factor of the same supplier, it could make a summary of the evaluation of supplier good at most different. The measurement method based on mathematical model to get a best value should be applied seriously in a very small industry because of complicated mathematical modeling of one can be used instead of the problem and method to get answers from the created model.

Summary

OTAs selected supplier from the suppliers list. If there are not enough suppliers to fulfill the requirements, new suppliers must be searched and listed. OTAs evaluated the potential supplier. After they passed this process, they will receive a quotation from online travel agency. This quotation provides terms, conditions and pricing. Finally, negotiation and contract should be managed. OTAs identified business importance and determine the appropriate amount of time and level of resource to allocate to cope with suppliers.

In this phase, the skills required for supplier selection to implement successful SRM are market and category knowledge whereas the skills required for supplier evaluation and classification is commercial expertise.

In addition, there is a strong need for a systematic approach to supplier selection especially in the area of identifying proper suppliers. (Weber et al.,1991 ; De Loeff,1997; Vonderembse and Tracy ,1999 ; Tempelmeier,2002) . This research uses Monte-Carlo simulation, queuing theory and systems thinking to create the systematic approach for supplier selection.

2.4 Systems thinking in knowledge management context

2.4.1 Knowledge management

Stair and Reynolds (2001) defined that knowledge management is the process of gathering knowledge and proficiency. It's on the computer, in the paper, or a person. Knowledge management aims to ensure that staff obtain and share the knowledge. Moreover, they could change behavior and flourish in an experience and proficiency.

Tiwana (2000) defined knowledge management as a tool to manage knowledge in organizations, especially in business sector.

Laudon (2000) discusses Knowledge Management is important. An organization that has characterized the administration of the flat and networking. The knowledge from management at different levels are recognized. This knowledge can be used to help the team members in their previous work including, information sharing, developing the other who they have to associate with.

Knowledge management (KM) is made out of a range of strategies and practices used to identify, create, represent, distribute and enable insight and experience adoption. Knowledge, individually or organizationally, is included in these insights and experiences as a process or practice since 1991 (Nomaka, 1991). KM has established disciplines that are taught in business administration, information systems, management, and library and information sciences (Alavi and Leidner, 1999) and in other fields such as information and media, computer science, public health and public policy as well. Many large organizations have dedicated resources to internal KM efforts, especially as a part of business strategies, information technology, or human resource management (Addicott et al, 2006). Normally, KM efforts focus mostly on organizational objectives (improved performance, competitive advantages, innovation, learned lessons sharing, integration and continuous improvement) but often overlap with organizational learning. This could be avoided by a more significant focus on knowledge management as a strategic asset and an encouragement to share the knowledge. KM is seen as an enabler of organizational learning and a more concrete mechanism than the previous abstract research.

Knowledge may be divided into two major categories.

1) Tacit Knowledge is the knowledge gained from experience, talents or instincts of the individual understanding. This type of knowledge cannot be simply expressed as words written. It is also a simple skill in the craft or critical thinking.

2) Explicit Knowledge is the transfer of knowledge that can be collected through various methods such as written notes to the various theories, sometimes referred to as concrete knowledge.

The objectives of applying knowledge management in organization.

- 1) To change management techniques. Traditional techniques in the management of the Total Quality Management (TQM) and re-engineering are the technique used in organization management but these techniques cannot improve the intelligence of an organization. Therefore, KM is applied in management techniques to increase organization productivity.
 - 2) To change market. In highly competitive marketing, sales techniques are important. It is the key to ensure customer satisfaction. That is the reason why organization has to develop itself to be knowledge-based organization.
 - 3) To diminish errors in the market. This aspect includes the reducing of size of the organization in order to work more efficiently.
 - 4) To create best practices. Best practices enable organizations to reduce their budget.
 - 5) To create innovation. Innovation is transformed from organization knowledge could accelerate their success.
- a) Nature of knowledge

Benjamin S. Bloom (mentioned in Aksorn Sawasdee 2542, 26-28) defined the meaning of knowledge as a recall of specific things, any methods and processes, including the patterns of the purposes of knowledge projects by focusing on the psychological process of memorization, which is a process connected to organization. Previously in 1965, Bloom et al presented the concept of perception or cognitive domain of human that there are six levels in the taxonomy, moving through the lowest order processes to the highest. Bloom et al demonstrated the details of each level as the following:

- 1) Knowledge: a learning process that focuses on memorizing and recalling of concepts, materials, and any phenomenon, which are the memories that begin with simple things that are free from each other to the memories of more complex things that are related to each other.
- 2) Comprehension: an intellectual ability to reasonably expand existing knowledge or memories, react to meanings, and the abilities to interpret, summarize, or explain one thing.
- 3) Application: an ability to use existing knowledge and comprehension or concepts to solve problems in new situations by applying acquired knowledge,

especially methods and concepts that are combined with the abilities to interpret, summarize, or explain that thing.

- 4) Analysis: abilities and skills that are beyond comprehension and application in the form of distinguishing the considered thing into parts that are related to each other, including searching for the relations between each part to find if they are in harmony to each other, which will truly cause understandings towards the considered thing.
- 5) Synthesis: an ability to put smaller or bigger parts together to form a whole. Synthesis is the process to gather information together to create a new pattern or an uncertain structure, and is a process that is based on creative thinking within the boundaries of the designated objects.
- 6) Evaluation: an ability to judge concepts, values, works, answers, methods and contents for a purpose based on criteria as the base in considering, judging, and evaluation. This is the considered to have the highest level of cognitive domain that needs knowledge, application, analysis, and synthesis together to evaluate one thing.

Knowledge is how human create and produce thoughts, beliefs, truths, and meanings by using facts, opinions, and logics expressed through languages, signs, and other means, having the goals and objectives defined by each creator and producer.

b) Knowledge management process

The number of steps in KM process can vary, but those steps have fallen into the following categories: Data Capture – when raw data is gathered before it is turned into knowledge or wisdom. Data Storage – a place to store acquired information. This is the current solution for businesses or even individuals. Filing cabinets are still viable storage solutions today. Data Organization – once collected, the data have to be organized into a useful structure. For instance, an unorganized raw data on sales figures numbers, number of employees, prices of products, employee attendance numbers and last quarter's profits, can be very difficult to use. Data Analysis-This often goes together with the organization step, as the act of organizing data often requires analysis. Once the data are analyzed, they becomes knowledge, because cause and effect become more obvious. Patterns become more apparent and can be conceptualized. This turns the information into useful knowledge. Knowledge Sharing- At this stage, the raw data have

become useful knowledge or wisdom. While this is an improvement, it's necessary to select the best way to share the earned wisdom with employees to make it truly useful on a daily basis, and to use it to reach organizational goals.

2.4.2 Systems thinking

Systems thinking is described by George Richardson, former chairman of Systems Dynamics Society, to be a “quote”, which means we are most interested in how human behaviors and the design of the system can account for the performances we observe. There are always compelling explanations of how due to exogenous forces. These explanations, however, offer little leverage. Methods of collective inquiry that allow us to see whole relations of our aspirations and models of how an organization can better coordinate strategic choices and actions to achieve desired results are needed.

a) The purpose of systems thinking

System Thinking is a tool for collective inquiry and coordinated actions to foster team learning and collaboration, describe how systems work through stories, discover problems behind system structures, describe mental models of system performance ,test possible strategies against intended results and for unintended consequences and identify higher-leverage interventions.

As a result, Systems Thinking enables us to: test possible strategies against intended results and find unintended results, and identify higher-leverage interventions. Systems thinking also enables us to understand how organizations and complex systems function, change ways of thinking to match system operations, change behaviors to work with complex forces, be aware of time delays, balance short and long term objectives and strategies, and anticipate unintended results to well-intentioned strategies.

b) Applying systems thinking to knowledge management

This research used *Systems thinking* which derived from systems theory and is the basis for the learning organization (Senge, 1990). In relation to knowledge, an important concept in systems thinking is *generative learning*. Generative learning is a process of leveraging, integrating and customizing existing knowledge for new uses (Senge, 1990). In generative learning, the main focus is on generating relations and creating meanings that increase understanding rather than storing and relisting

information (Wittrock, 1992). Generative learning enables innovative approaches rather than the mere reactionary old ideas to new problems.

A systems thinking approach to KM recognizes that each time one of the key knowledge processes is enacted, there will be a ripple effect of events and behaviors that may change the state of other subsystems. Events may reinforce processes that lead to desirable or undesirable outcomes. Each process may lead to reactionary solutions or true generative learning

Generative learning of this research is acquiring supplier selection methods and supplier relationship management in holistic or wholeness forms, which is an analysis of OTAs' problems and situations in a whole picture. It has a network thinking system, is how to think of interactions between each system. It is a network of each system problem or in each that has interactions between each other; between major systems and major systems, between minor systems and minor systems, even between bigger systems and the environments. The changes in minor systems will affect major systems. Moreover, there is adaptation thinking for each system. All the systems will adapt and try to create balances and maintain them by using self-organization with snowball and balance diagrams. Significantly, the selection and relationship management methods will not be explained in old-fashioned forms; textbooks and manuals, but will rather be explained in feedback-loop diagrams. The thinking process will be as a loop more than a straight line. Every different part will be connected both directly and indirectly. Besides all the mentioned requirements systems thinking that creates Generative Learning, systems thinking also affect knowledge management in an organization by generating information for actions; adopting results from creating archetypes to use as further information, solve work problems, and evaluate the work of an organization by using strategy plans.

c) Systems thinking and the development of organization

Systems thinking with the organization is an effective organization which brings the system thinking to manage the systems in the Organization and inconsistent in overall. The Organization consisting of components are all combined into one. Systems thinking is not only Manufacturing view or Marketing or Organization's development or Sales or Engineering or Accounting department. If we do not understand on system thinking, we will look that Production, or Human Resource

or Sale, each of them is the organization. When problems occur, we will look at that point and solve it or only think that it is a problem and then resolve that. Finally think that is a problem-solving of organization.

A real systems thinking, we will look at the actual event occurs, caused from the organization but not one party only. All problems are related to each other and cannot be disassembled.

Business or any of mankind commits as a system. All actions are associated with the scenes of relationships to each other at all times but it will not be visible immediately. It would take more than one event occurs and without knowing. Especially, the phenomenon that we are a part of it, it is hard to see such as the families that their children are drug-addicted. Parents do not notice that they are a cause. We do not see the pattern of changes that have occurred in our family.

d) Casual loop diagram

Casual loop diagrams (CLDs) are a kind of systems thinking tool. These diagrams consist of arrows connecting variables (things that change over time) in a way that shows how one variable affects another. System diagrams are powerful tools that give a stronger understanding on how complex system operate. Systems analysis could be anything from businesses, population models, or the impacts of social policies, etc. Drawing a system diagram is a great way to start planning computer models by mapping out system structures. This shows essential factors and relations and helps quantify linkages between factors. Besides, there are many components of CLDs that make the systems thinking model completed;

Feedback Loops: Feedback is important in system diagrams in many cases since changing a factor will affect the other ones to the first one. It will either dampen the impact or amplify it. Balancing Loops are when a feedback dampens the impact that causes changes.

Balancing Loops: Where feedback dampens the impact of a change.

Reinforcing Loops: Where feedback amplifies the impact of a change.

External Factors: The system diagrams organization completely ignore the impact of these external factors on them.

Gaps: the idea of a gap is difference between the external factor organization have not yet built into model and the actual situation of the organization. The gap can be

shortened by pushing more capability or increasing in investment beyond this point may yield more profit.

Delay: the impacts of delay are the final area to be considered when an organization makes a change in a system. In reality, there is always a delay before other factors adjust. This delay could occur as a result of inertia and friction. In human, this could occur when an individual takes time to communicate, get used to new ideas and implement change. Fifth Disciplines of Systems thinking

Peter Senge wrote a book based on systems thinking, “The Fifth Discipline” (Doubleday, 1990). He suggested 5 disciplines to cultivate systems thinking. He also suggested 4 four other disciplines as well. First is personal mastery. As Senge describes, it “continually [clarifies] and [deepens] our personal vision of focusing energy, developing patience, and seeing reality objectively” (Doubleday, 1990).Mastery goes beyond competence, skills, and spiritual opening. It is seen as a special kind of proficiency. It is not about dominance, but rather callings. Visions are more than just good ideas. Second are mental models. As Senge explains,“Quote”. It is essential for people in any organizations to acquire new skills and orientations if the said organizations would like to develop work capacity. An organization moves in the right direction when it transcends the sort of internal politics that dominate traditions in organizations, or, in the other word, is fostering openness (Senge, 1990).Third is building shared vision. As noted by Senge, “Quote”. There are ‘limits to growth’ in this aspect. Developing mental models as mentioned above can improve the matters significantly. There are possibilities of bringing visions to fruition if organizations can transcend linear and grasp system thinking. Fourth is team learning. Senge adds, “Team learning is vital because teams,not individuals,are the fundamental learning unit in modern organization” . This is built on personal mastery and shared visions, but not yet enough. As peter Senge suggests, when a team learns together, an organization can achieve better results and grow faster than any other ways.

c) **The core disciplines**

There are four other ‘component technologies’ which are, as reviewed by Peter Senge, a series of principles and practices to study, master, and integrate. These five disciplines are approached at one of three levels; Practices: what you do, Principles:

ideas and insights, Essence: those with high mastery level in discipline (Senge, 1990). Each one provides vital dimensions and is significant for organizations to learn.

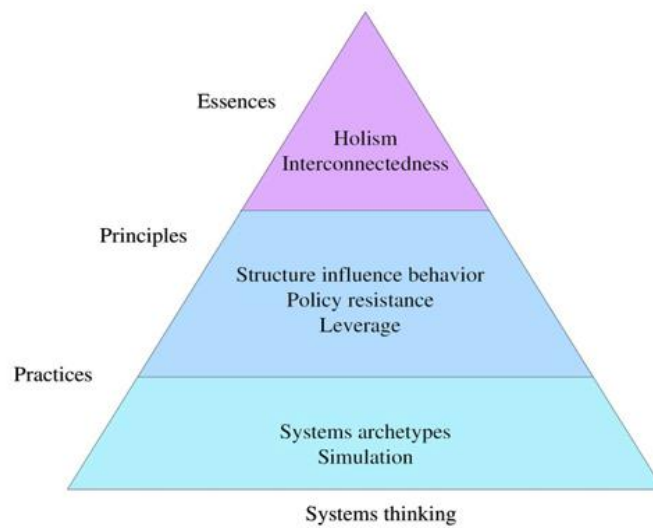


Figure 2.10 Systems thinking core discipline

Systems thinking is essential to knowledge management since it provides a framework to ensure the same general requirements will be addressed by KM endeavors with varied methods and tools.

Summary

In this research, knowledge management plays an important role to assist the supplier selection process. It is a major mode of KM to investigate organization behavior, describe cause and effect as “system thinking”.

Systems thinking provides ability to understand a holistic view of organization. This research gains greatly benefit from systems thinking by developing system archetype to describe the problem behavior in supplier selection process. Systems and sub-systems have interrelate between many parameters which hasten the learning process and assist the problem, particularly supplier selection. Online travel agency will learn to balance unintended situation such as, profit diminishing during low season, accidental adversary with their supplier, striving to leverage their own capacity

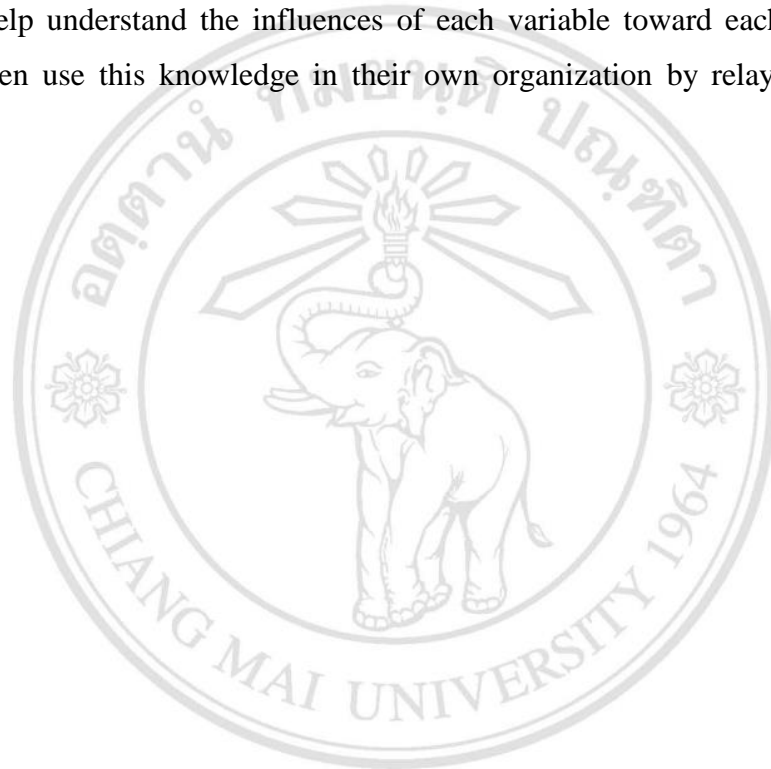
2.5 Connections of Theories to the Research

The 4 study subjects, which are 1) Tourism; 2) Tourism Supply Chain, which consists of Customer Relationship Management (CRM) and Supplier Relationship Management (SRM); 3) Supplier Selection Techniques, and; 4) Systems Thinking, were used to setup a research as a conceptual framework which will be presented in chapter 4. The accordance of these 4 subjects is as the following:

1. According to the objective in this study to develop a model for supplier selection decision analysis and strategic choice by using systems thinking under the context of Online Travel Agency businesses in Chiang Mai. With the said objectives and scopes, tourism has to be studied to understand its meanings, evolutions, and types all related business in Tourism Supply Chain.
2. This research intended to study the works of OTAs about their role in Tourism Supply Chain as intermediaries between suppliers who use customers' needs to control product selection to meet customers' needs. It is necessary to understand online transaction service processes and tourism product and service life cycle.
3. Since OTAs are brokers that distribute tourism products and services, they have to select the best products and services to present to customers. Product selection, therefore, has become the heart of success in businesses. Supplier selection is knowledge that OTAs has had for a long time it became tacit knowledge, but there are several ways to convert this knowledge to explicit knowledge that can be shared. Making of literature reviews focuses on general methods used in industries of how they are often related to financial cost and complex mathematical equations, which might not suit service businesses like OTAs. The reasons will be discussed in chapter 4.
4. Supplier selection is the knowledge that goes along with supplier relationship management. This gives results as not only systems thinking for selection, but also for relationship management that has to be performed together.
5. It is well known that Knowledge management (KM) is the process of identifying and leveraging the collective knowledge in an organization to help the organization compete (von Krogh, 1998; Alavi and Leidner 2001). To increase their performances in competing with others, OTAs have to manage their valuable knowledge, which is tourism product and service selection to present

customers. Therefore, the framework of this research was developed based on KM processes.

6. Studying KM has requires many tools. The tools, therefore, have to be chosen carefully to fit research problems. As for this research, the researcher selected systems thinking since supplier selection cannot be explained in manuals or diagrams that show work processes from selection to relationship management that have connections between variables. Looking at the variables systematically will help understand the influences of each variable toward each other. OTAs can then use this knowledge in their own organization by relaying to related units.



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