

## **CHAPTER 2**

### **LITERATURE REVIEW**

The literature review of this study is separated into four parts. The first part reviews literature related to the relevant issues and concepts that assist in meaningful understanding of the research problems that form the focus of this research. The second part is a literature review of case studies and projects related to the research problem, while the third part reviews literature regarding the methodology and tools required to identify and analyze these research problems. The last part of the literature review presents the theory and framework, which are employed to support and assist in understanding and developing appropriate solutions to the research problems.

The first part of the chapter includes information that provides greater understanding of related issues that are important in comprehending the research problem. This section begins with a brief introduction on the creative economy concept, followed by a review of SMEs, business incubation and new product development (NPD) issues.

The second part explores the available case studies related to this research, which provide an in-depth understanding of the research problems. Two cases were reviewed to allow precise direction on the methods of analyzing information and gathering data for this research.

The third part of the literature review investigates the methodology and tools required in this research. Important tools include action research, semi-structured interviews, open-ended questions, debriefing and a focus group. These tools were chosen with consideration of the nature and availability of data sources.

The fourth part reviews the theories and frameworks that are used in this research. This part begins by probing the area of knowledge management which will allow specific understanding of other knowledge management theories. In particular, knowledge creation theory, and the SECI model is employed to develop solutions and suggestions to the research problem.

## 2.1 Creative Economy

The creative economy is, to some degree, new in the area of academic research. The majority of the information regarding the creative economy comes from the United Nations Conference on Trade and Development (UNCTAD) and the United Nations Development Program (UNDP), which are both integral parts of the United Nations that coordinate the development of creative economy. From a global perspective, The Creative Economy Report series (resulting from cooperation between UNCTAD and UNDP) is considered as the most reliable and practical source of information on the creative economy.

Policy makers, development practitioners and researchers from developing countries, agree that creative industries were among the most dynamic sectors, offering new high growth opportunities (UNCTAD, 2008). The UN Creative Economy Report 2010 indicated that as the world economy faced the most severe recession (UNCTAD, 2010), , knowledge-based creative sectors were more resistant to this world crisis. To further corroborate the resilience of these sectors, creative goods and services continued to grow while in global trade decline (UNCTAD, 2010). Therefore, both developed and developing countries are focusing attention towards development of creative economy goods and services to strengthen their economic welfare. Given number of different notions of the creative economy, governments in both developed and developing countries initiate policies to support growth within the concept of the creative economy. Singapore, the second most populous country in the Asia Pacific region (following Japan), also focuses on the creative economy as it depends less on natural resources but more on brain power, services and labor to advance its economy (Ooi, 2006). As mentioned, Howkins (2001) noted that the term ‘creative economy’ is builded on a relationship between creativity and economics and go into detail by stating that, “creativity is not new and neither is economics, but what is new is the nature and extent of the relationship between them and how they combine to create extraordinary value and wealth” (Howkins, 2001, p.8).

### 2.1.1 Creative Industry concept and Model

Given the significant interest in promoting the creative industry concept, it is surprising that there is no single definition of the creative industry that is commonly accepted. The five models that UNCTAD employ in order to systematically describe the concept and characteristics of creative industry are as follows (UNCTAD, 2008):

- **UK DCMS Model**

In the 1990s, the UK's Department for Culture, Media and Sports (DCMS) initiated this model. DCMS set up its Creative Industries Unit and Task Force to stimulate the alertness of the concept of creativity. It was designed to stimulate creativity in the UK economy. Creative industries were defined as industries which have their starting point in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and utilization of intellectual property.

- **Symbolic Texts Model**

This model was initiated in Europe and the UK. The symbolic texts model arises from the critical-cultural-studies practice. A key difference from other models is that it directs attention on popular culture rather than the 'high' or 'serious' arts. The processes by which the culture of a society is produced and transmitted are revealed in this model via the industrial production, dissemination and consumption of symbolic texts or messages, transmitted by various media for instance: film, music and the publication.

- **Concentric Circles Model**

This model focuses on the cultural value of cultural goods, where distinguished characteristics depend on the pronounced cultural content of a specific good or service. The model divides the activities of the creative industries into four components: the core creative fields, cultural industries, creative industries and activities, and the rest of economy. The model asserts that the core creative fields initiate in the core creative arts in the form of sound, text and image, and that these ideas and influences diffuse outwards

through a series of layers or ‘concentric circles’, with the proportion of cultural to commercial content decreasing as one moves further outwards from the center.

- **WIPO copyright model**

This model aims to provide a systematic way to define creative industry build on industries involved either directly or indirectly in the creation, manufacture, production, broadcast and distribution of copyright works. In the WIPO Model, the creative industry is also known as ‘the copyright based industry’.

- **UNCTAD Model**

In 2004, the concept of ‘creative industries’ was integrated into the international economic and development agenda. According to UNCTAD, creative industries are those involved in the creation, production or distribution of goods and services that use creativity and intellectual capital as primary sources. In creative industries set of knowledge-based activities, focused on but not limited to arts, potentially generating revenues from trade and intellectual property rights are important perspectives. The cycle of creation includes production and distribution of goods and services that employ creativity and intellectual capital as primary sources. It comprises tangible products and intangible intellectual or artistic services with creative content, economic value and market objectives. Industries that closely link with ‘creative industries’ vary from traditional arts and crafts, publishing, music, and visual and performing arts to more technology-intensive and service-oriented activities such as film, television and radio broadcasting, new media and design. The current UNCTAD definition recognizes four creative sectors: art, heritage, media, and functional creations.

Table 2.1 below indicates those industries classified as ‘creative’ according to each of the five models. None of the above model’s definitions of the creative industry is incorrect, the models are merely representative of the scope and ongoing debates regarding the definition of the creative industries. For this thesis, the UNCTAD model

that is selected as it has been adopted by the Thai government and seems to be most applicable considering the landscape of the Thai economy.

Table 2.1 Classification of the Creative Industries (UNCTAD, 2008)

1. UK DCMS model	2. Symbolic texts model	3. Concentric circles model	4. WIPO copyright Model	5. UNCTAD Model
Advertising Architecture Art and antiques market Crafts Design Fashion Film and video Music Performing arts Publishing Software Television and radio Video and computer games	<b>Core cultural industries</b> Advertising Film Internet Music Publishing Television and radio Video and computer games <b>Peripheral cultural industries</b> Creative arts <b>Borderline cultural industries</b> Consumer electronics Fashion Software Sport	<b>Core creative arts</b> Literature Music Performing arts Visual arts <b>Other core cultural industries</b> Film Museums and libraries <b>Wider cultural industries</b> Heritage services Publishing Sound recording Television and radio Video and computer games <b>Related industries</b> Advertising Architecture Design Fashion	<b>Core copyright industries</b> Advertising Collecting societies Film and video Music Performing arts Publishing Software Television and radio Visual and graphic art <b>Interdependent copyright industries</b> Blank recording material Consumer electronics Musical instruments Paper Photocopiers, photographic equipment <b>Partial copyright industries</b> Architecture Clothing, footwear Design Fashion Household goods Toys	<b>Heritage</b> - <b>Traditional cultural expressions:</b> Arts and crafts, festivals and celebrations; and - <b>Cultural sites:</b> Archaeological sites, museums, libraries, exhibitions, etc. <b>Arts</b> - <b>Visual arts:</b> painting, sculpture, photography and antiques; and - <b>Performing arts:</b> Live music, theatre, dance, opera, circus, Puppetry, etc. <b>Media</b> - <b>Publishing and printed media:</b> Books, press and other publications; and - <b>Audiovisuals:</b> film, television, radio and other broadcasting. <b>Functional creations</b> - <b>Design:</b> interior, graphic, fashion, jewelry, toys; - <b>New media:</b> software, video games, and digitalized creative content; - <b>Creative services:</b> architectural, advertising, cultural and recreational, creative research and development(R&D), digital and other related creative services.

According to UNCTAD (2008), the 'creative economy' is an evolving concept based on the capability of creative assets in generating economic growth and development. It can promote income generation, job creation and export earnings while encouraging social inclusion, cultural diversity and human development.

It involves economic, cultural and social aspects interacting with technology, intellectual property and tourism objectives. It is a set of knowledge-based economic activities with a development aspect and cross-cutting linkages at macro and micro levels to the overall economy. It is a feasible development option calling for innovative, multidisciplinary policy responses and intermediate action. At the core of the creative economy are the creative industries (UNCTAD, 2010.)

UNCTAD's 2004 and 2010 reports suggest creative economies in both developed and developing countries are consisted of two concepts, the 'cultural industries' and 'creative industries'. Furthermore, in order to develop an thoroughly understanding of the creative economy, it is important to consider associated concepts such as 'creative class', 'creative cities', 'creative clusters', 'experience economy', 'creative commons' and 'creative ecology'. Activities associated with the creative industry can be separated in two parts, 'upstream activities' (traditional cultural activities such as performing or visual arts) and 'downstream activities' (much closer to the market, such as advertising, publishing or media-related activities). UNCTAD also recommended that the second group derives its commercial value from low reproduction costs and easy move to other economic areas (UNCTAD, 2010.) To bring about an agreement of the cross-sectorial interactions as well as the broad picture of the term 'creative industries', UNCTAD's classification of the creative industries consists of four groups, which, as noted above, are heritage, arts, media and functional creations (see Figure 2.1.)

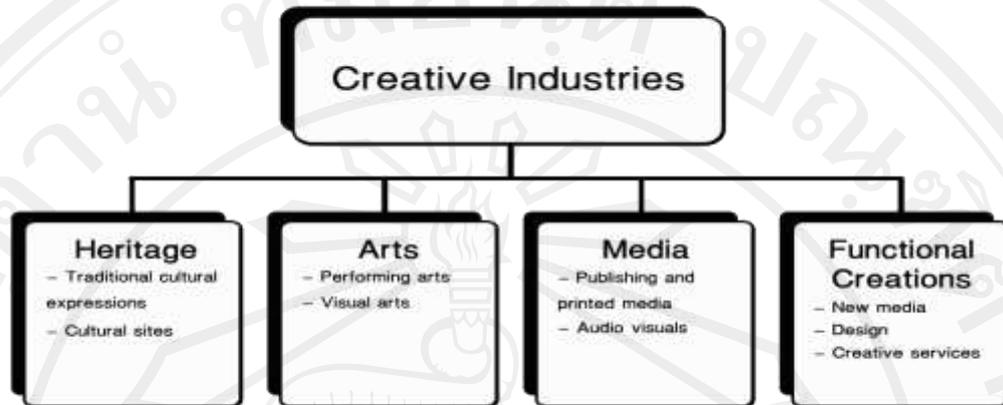


Figure 2.1 The UNCTAD classification of creative industries  
(UNCTAD, 2010)

The classification in Figure 2.1 is useful in providing reliability in quantitative and qualitative analysis for further development of government policy to support small and medium size enterprises.

As the creative industry becomes the fastest growing economic sector, it is now seen as central to the success of many developing and advanced economies (UNCTAD, 2010). Creative industries have potential to expand in both national and international markets. In countries such as Australia, Hong Kong, Singapore, New Zealand and the UK, creative industries contribute to expanding and boosting export markets. Other than economic benefits, the creative industries provide a strong cultural focus (UNCTAD, 2010). For these reasons, many governments and political leaders have focused their attention on the creative industries to promote social development, promote cultural diversity and support the needs of minority groups (Benson, 2005).

Globally, the international trade of creative goods and services has increased considerably in recent years. According statistics from UNCTAD, world exports of creative goods and services in 1996 were valued at 227.4 billion USD and in 2005 the

value increased to 424.4 billion USD representing 3.4% of total world trade value (UNCTAD, 2010). From 2000-2005 the value of international trade of such goods and services grew an average of 8.7% (year-on-year) annually (UNCTAD, 2008). This figure indicates a positive trend for global development in creative goods and services.

The creative economy has gained importance for many governments, for example, Singapore, Hong Kong, South Korea and Taiwan and in the early 2000s; governments integrated the term into their policies. An important aspect is that although the term's definition varies between countries, the objective of the creative economy is very similar; to develop and sustain a nation's economic competitiveness and global status. Consequently, the creative economy has become a leading competitive strategy for many Asian countries.

### **2.1.2 The Creative Economy in Developed Countries**

In the 1990s, the creative industries grew faster than other sectors, including services and manufacturing (UNCTAD, 2008). Major technologies changed, especially in multimedia and telecommunications areas, which resulted in changes to consumer preferences and behavior in parallel to increasing incomes in developed countries. The changes that occurred during this period have opened up a range of new media where cultural content has grown to be popular due to development of the creative industries. Consumers in developed countries had a higher propensity toward cultural consumption, resulting in sustainability and growth in the creative economy.

It is clear that in the global market, developed countries still lead and dominate in creative products (UNCTAD, 2008). In many developed countries, the support structure of the local industry provides complementary support for creative economy development. Consequently, there is an environment conducive to increased competitiveness and capability of developed countries in this sector. The export of creative goods from developed countries predominates the world market, with arts and crafts being the most important creative products for export earnings for both developed and developing countries.

Other than a leading role in developing creative products, developed countries are considered a main consumer of creative products. The import and export of music CDs in developed countries accounted for about 80 to 90 percent of world trade in music goods (UNCTAD, 2008). Similarly, in audiovisual goods, developed countries still dominate the global market. For example, in the film industry, developed countries produce 6.3 films per million inhabitants compared with 1.2 films in developing countries (UNCTAD, 2008).

With regard to copyright issues, developed countries have theoretically developed the laws to fit their needs. They develop laws to suit their economic, social and technological situations, while leaving less space for developing countries to explore the global market. Recently, many developed countries shifted focus to creative cities, due to economic reason, which drew the attention of policy makers and cultural researchers. Although the focus or terms representing the creative economy may be different from country to country, cultural context in specific geographical areas should remain essential for further development.

Many developing countries are faced with a decline in their share of world trade. The major cause has been the lack of attractive goods and services in their export profile and the continuing reliance on exporting existing commodities (UNCTAD, 2002). Like other developed countries, developing countries' governments prioritize the creative industries sector in their national development strategy. The creative economy concept provides significant potential for developing countries' economic development. However, most are still in the initial stages of the development process. With a rich cultural heritage and a vast amount of talent, developing countries have substantial potential in this area.

According to UNCTAD (2008), entrepreneurship and technology are still considered as major constraints for many developing countries in terms of developing their creative economy. Other constraints include a lack of supporting services, unstable investment climates, and misguided policies. These are issues that governments must address to become major players in the global creative industries. Although many developing countries trade products derived from creative industries,

many countries still focus on low-value-added products through production networks organized by large international firms. This causes difficulty in developing domestic linkages that are required to develop higher-value-added products and services.

Unlike labor, natural resources and capital, creativity is not a given resource. Instead, it is a resource intensely rooted in a country's social and historical background. Given it is an ambiguous form of asset it provides significant opportunities for developing countries to establish new dynamic products and services for wealth and employment creation. However, the nature of creativity may be challenging for policy makers to grasp. Rather than cost, the application of new technology and knowledge-based activities become factors that drive competitiveness and added value in the new global setting. The rapid changes in digital technology and connectivity help to stimulate the creation of new creative products and services, enabling developing countries to reach global markets more effectively. Therefore, it is critical for policy makers to concentrate on developing an appropriate and sufficient structure that allows sustainable development in human capital.

Entrepreneurship should be a central focus in developing human capital in developing countries. Cultural entrepreneurship in particular is not well established in many developing countries (UNCTAD, 2002). Entrepreneurship can be developed by establishing an effective framework, which supports and improves the investment climate by structuring market mechanisms from both public and private sources. The development strategy should focus on the creation of local enterprises with an emphasis on international markets and integration into the global economy. While developing cultural entrepreneurship to support the creative economy concept has the advantage of attracting local markets, it is also important to comprehend the regional and global market. Because experimentation such as new product development, product prototyping and market testing are key to successful entrepreneurship development in the creative industries, governments need to provide continued support, which will ultimately benefit the country's economy.

Many developing countries have experienced fluctuations in the world economic condition, and as such, the creative economy constitutes the most dynamic

approach to a national development strategy to sustain and maintain high growth opportunities.

### **2.1.3 Thailand's Creative Economy**

This section seeks to provide an enhanced understanding of Thailand's creative economy. Although many government agencies have proactively initiated policies and activities to enhance the creative economy concept, understanding the creative economy definition and concept have been unclear. Therefore, to provide a constructive and consistent understanding of the concept, as well as its contribution and potential for Thailand's economy, the information from the Kenan Institute Asia (K.I.Asia) report (2009) and UNCTAD report (2010) are used as major sources for review and analysis.

Thailand is abundant with culture and social wisdom (UNCTAD, 2010) and these resources enhance its creative industries. Previously, Thailand's economy was primarily agrarian, being a leading nation for agricultural products which largely depend on labor and natural resources. In contrast, the creative economy depends less on natural resources but more on skilled, creative and innovative labor (K.I.Asia, 2009). Increasing Thailand's GDP through the creative industries via the available intellectual property, knowledge and wisdom is thus critical to boost Thailand's economic competitiveness.

The Thai government takes an active role in promoting the concept of the creative economy to ensure the health of the economy (UNCTAD, 2010). Since Thailand faced the 'Tom Yum Kung' crisis, its economy has continued to recover and has faced many challenges. In 2008, among other developing economies, Thailand ranked sixth in value and third in trade surplus for exports of creative goods (UNCTAD, 2010). Today, the development plan toward the creative economy is seen in the draft of the 11<sup>th</sup> National Development Plan and in the nine government programs for developing creative industries that are included in the second stimulus package (Thai Khem Kang: Strong Thai). The government realized the importance of a creative economy with the aim to establish Thailand as the creative industrial hub of

ASEAN and to increase the contribution creativity makes to the proportion of GDP from 12% to 20% by the end of 2012 (UNCTAD, 2010).

To meet the creative economy aims, the Thai government has officially established two organizations. The Thailand Creative Economic Agency (TCEA) is responsible for policy coordination and implementation, and the Thailand Creative and Design Center (TCDC) looks after the 'creative Thailand' concept with the Bangkok Art and Culture Center and Design Festival, which enhances the nation's creative capacities. The aim is to make Thailand as a hub of ASEAN creative industries (K.I.Asia, 2009)

The Thai government has realized the importance of developing SMEs' competitiveness to enhance the economic stability of Thailand. Developing creativity to add value to products and services is essential. As mentioned earlier, the government's ultimate aim is to develop Thailand as a creative hub in the ASEAN region. The government thus established the Office of Knowledge Management and Development (OKMD) to support and provide people with an increased understanding of the policies and concepts related to the creative industries. In addition, the OKMD is responsible for society's knowledge-based development to support and promote Thai entrepreneurs to create new products and services by utilizing valuable assets such as Thai culture and local wisdom. Furthermore, the government announced several projects under the umbrella of the creative economy policy to stimulate awareness and development. The Executive CE project focused on establishment of creative economy courses for executives and others to develop more understanding about the creative economy. The Creative Mobile project aimed to mobilize knowledge by dissemination to every province nationwide. Other projects also focused on developing understanding and a more effective knowledge-base to support Thailand's creative economy development policy.

Other government agencies also actively support the government's creative economy policies. The Ministry of Industry used the creative economy idea to encourage Thai food by encouraging Thai restaurants operating internationally to educate consumers about Thai food in the context of Thai culture and beliefs. The

Ministry of Culture has launched a Creative Arts and Cultural Festival with objectives of generating work and income for local villagers through the sale of cultural products and services.

The Economic Contributions of Thailand's Creative Industries report by K.I.Asia (2009) suggests that the government support creative industries. This is an important policy, which can contribute significantly to Thailand's economic development. Some of the products from Thailand's leading industries include silk, tourism and spa industries. The government must provide continuous support and promotion of the creative industries. This is essential and required to make the transition to a more advanced economy, which will result in higher GDP per capita, a higher standard of living and an increased quality of life. Because knowledge and creativity are closely related, the development of creative industries should be in parallel to the development of knowledge-based industries. Therefore, the government should utilize the available public organizations including educational institutions and other research institutions. In addition, to strengthen value chains in the creative industries, the cluster approach can assist in advancing the creative industries. This is similar to the digital content and jewelry clusters, which have shown some degree of success.

## **2.2 Small and Medium Size Enterprises (SMEs)**

SMEs account for 90 per cent of businesses worldwide (UNIDO, 2002), and continue to become an essential part in driving national economic success. In many economies, SMEs are a key driving force in producing new ideas for products and services and are often able to grow into large businesses (Moore and Barrett, 2002). It is therefore in a nation's interest to nurture and develop SMEs so that they can become a backbone of the nation's economic stability (Tsai and Lee, 2006; Tsai et al., 2009). Studies of six OECD countries (Canada, Finland, Germany, Japan, the United Kingdom and the United States) indicated that the continued upgrade of workers' and managers' skills is vital to a firm's performance in the knowledge-based economy (OECD, 2002). SMEs must be able to adapt quickly to fast changing markets and business environments. Knowledge is the key competitive factor which SMEs use to

differentiate themselves from their competitors (Beijerse, 2000), however, most SMEs are faced with limited resources. This constraint also limits their ability to receive proper training and development courses. OECD studies point out that there is a positive correlation between the degree of management training and underlying business performance, which consequently reduces the failure rate for SMEs, particularly in their early years (OECD, 2002). The studies also indicated that other than the relationship between the degree of management training and business performance, firm size also affected SME failure rates. Studies of UK SMEs between 1990-95, indicated that the smallest firms were the least likely to last more than five years (Table 2.2)

Table 2.2 Failure Rate of UK SMEs, 1990-95 (OECD, 2002)

<b>Employment Size</b>	<b>Failure Rate</b>
0-9	35.1
10-19	27.1
20-49	27.4
50-99	24.3
100-199	16.5
200-99	18.3

Table 2.2 indicates that failure rates were approximately twice as high for the smallest sized firm compared to the largest of the SMEs. Management issues may be the main reason behind the failure of small firms. From general observation, individuals who own and manage small businesses are typically less well educated than those working and managing large firms, and those in small firms are less likely to receive the required formal training when compared to large firms.

For these reasons, governments need to support SMEs' development, especially small size SMEs, sometimes referred to as micro and small enterprises (MSEs), which face a high risk of failure from financial and competitive barriers.

Governments should develop and implement proper training programs that enhance SMEs' capabilities. Recommendations for management training (OECD, 2002) are:

- Tailor training for start-up and offer counseling for established SMEs.
- Teach management skills such as flexibility and teamwork.
- Aim for specific objectives for specific groups such as new entrepreneurs or exporters.
- Consider training at local levels and with appropriate time frames.
- Utilize electronic communication technology (e.g. the Internet).
- Encourage entrepreneurship in the educational system

It is clear that small firms that have received less formal and more limited training face increased business failure risks compared to larger firms. Many governments in developed and developing countries have subsequently developed programs to enhance management training for SMEs, as shown in table 2.3 (OECD, 2000):

Table 2.3 Established Government Training Programs by Countries (OECD, 2000)

Country	Program / Agency	Focus / Objective
Australia	The Small Business Enterprise Culture Program (SBECP)	<ul style="list-style-type: none"> <li>• enhance small-business access to skill development, mentoring and information services</li> <li>• program focuses on developing the business skills of women and small-business managers</li> </ul>

Table 2.4 Established Government Training Programs  
by Countries (OECD, 2000) (continued)

Country	Program / Agency	Focus / Objective
<b>Belgium</b>	1998 Law, Program for the Promotion of Independent Enterprises	<ul style="list-style-type: none"> <li>• Start-up assistance can be obtained through a paid training period for a period from 12 to 30 months.</li> </ul>
<b>Denmark</b>	Skill Development and Formation Program	<ul style="list-style-type: none"> <li>• The Entrepreneurs Program offers up to 15 hours counseling for those wishing to start a business</li> <li>• Organization and Competencies (LOK) promotes joint ventures among enterprises</li> </ul>
<b>Ireland</b>	The Pilot Training Projects	<ul style="list-style-type: none"> <li>• Company Development Cluster Program</li> <li>• Diagnostic Skills Program</li> <li>• Management Development Grants Program</li> <li>• Business Appraisal Training Program</li> <li>• The SBOP Small Business Best Practice</li> </ul>
<b>Korea</b>	A venture enterprise legal consulting team	<ul style="list-style-type: none"> <li>• provide start-up consulting services to prospective small, medium and venture enterprises</li> <li>• foster the SME consultancy industry</li> </ul>

Table 2.5 Established Government Training Programs  
by Countries (OECD, 2000) (continued)

<b>Country</b>	<b>Program / Agency</b>	<b>Focus / Objective</b>
<b>Mexico.</b>	CRECE (Regional Centre for Entrepreneurial Competitiveness)	<ul style="list-style-type: none"> <li>• Online assessment tool for management skills and other business areas.</li> </ul>
<b>Netherlands</b>	The Chambers of Commerce and the Institutes for Small and Medium-Sized Enterprises (IMKs)	<ul style="list-style-type: none"> <li>• training in specific areas such as product innovation, partnership, quality assurance and export</li> <li>• Supply their information products and develop an SME service on the Internet.</li> </ul>
<b>New Zealand</b>	The BIZ program	<ul style="list-style-type: none"> <li>• improving the management capabilities of SMEs</li> <li>• business diagnostics/assessments, business skills training, business mentoring, and business networking</li> <li>• an information and referral service, BIZ info, to provide information on public and private enterprise assistance initiatives</li> </ul>

Table 2.6 Established Government Training Programs  
by Countries (OECD, 2000) (continued)

Country	Program / Agency	Focus / Objective
<b>Poland</b>	The National System of Services for SMEs (KSU)	<ul style="list-style-type: none"> <li>• training and information services for SMEs</li> <li>• Business Information Network (BIN) aims to improve the access of entrepreneurs to business information and supply entrepreneurs with the information necessary to set up and manage a business</li> </ul>
<b>Portugal</b>	The SME Training Pilot program	<ul style="list-style-type: none"> <li>• consultants/trainers who work with the entrepreneur or manager for approximately one year increasing the firm's management capabilities</li> </ul>
<b>Sweden</b>	Starting Line (Startlinen)	<ul style="list-style-type: none"> <li>• provides information on the administrative framework, financing, etc.</li> </ul>

The most effective learning for small-firm owners is through experience (OECD, 2000), therefore it is important to design appropriate training programs that provide hands-on experience to SMEs. Without appropriate training and hands-on experience, much of the SMEs' experience is being acquired through failure. Governments can benefit significantly from reviewing the reasons behind small firms' failure in order to enhance small-firm owner/managers and entrepreneurship development in general.

### 2.2.1 SMEs in Developing Countries

The acceleration of globalization along with rapid development in information and communication technology has increased transportation facilities, tariff reduction opportunities and challenges to SMEs (UNCTAD, 2010). Previously, developing countries' integration into the global economy by liberalization, deregulation, and democratization was seen as a way to improve probity and inequality. For a start-up firm, human capital, organizational capital and relational capital are important for development (Pena, 2002). As with many developed countries, SMEs play a critical role in developing countries' economies. SMEs tend to employ more labor-intensive workers compared to large enterprises (UNCTAD, 2010) and subsequently they positively contribute to generate income distribution, which ensures long-term economic and social stability. Although SMEs are found to play a vital role in most countries' economy, definitions of SMEs varies between countries, with some using the number of employees and others using capitalization. The most common definition is based on the member of employees (about one hundred) (APEC, 2002). Generally, SMEs are family run businesses that dominate the SMEs sector (Meredith and Abbott, 1984) and many successful SMEs develop to become large businesses (Moore and Barrett, 2002). Surprisingly, not all SMEs want to grow, and in growing they may lose the SME advantage (Macdonald et al., 2007).

For many developing countries, the share of employment held by SMEs reached over 50 percent of total employment (UNCTAD, 2010) and SMEs' productivity is thus an important component of supporting national GDP growth. As many nations have realized the importance of SMEs, limited attention has been focused on long-term SME development. Many large enterprises have available resources to support development and innovation; however, Sparrow (2001) argues that experience and lessons learned from large businesses cannot be directly applied to SMEs. According to UNCTAD (2001a), improving the Competitiveness of SMEs in Developing Countries Report indicated that SMEs can be as follows:

- small business, it is a way of life;
- small business is about personal risk;
- small business means managing interdependencies;
- know-who and know-how are most important to small business;
- for small business it means standing alone;
- for small business it means the buck stops here
- learning by doing is small business

According to Beijerse (2000) SMEs can be characterized in terms of organizational culture, human resources, systems processes and procedures, and organizational structure. Generally, the organizational structure of SMEs is flat compared to large companies, with most SME owners acting as owner-manager, who are primarily responsible for strategic management and often stand-in for many missing functions. SMEs' flat organizational structure facilitates advantages such as flexible operation and a short line of communication. Disadvantages are often an unclear organizational vision and direction. System processes and procedures for SMEs vary by size and number of employees. SMEs are generally simple in both planning and control tasks.

For MSEs, funding and competition barriers are the main problem for developing the business. In addition, according to a UK survey of SMEs (which is likely to apply to many parts of the world), the first things that SMEs require help with are marketing and sales, followed by financing and accounting areas (UNCTAD, 2001). The detailed findings of this survey are listed below and in order as follows:

- marketing and sales;
- acquisition of financing, cash flow;
- accounting, credit control;
- computers and IT;
- employment;
- production quality;
- health and safety

As indicated earlier, SMEs are faced with funding and competition barriers; therefore, it is important to support SMEs with appropriate and accessible expertise in the areas mentioned above in order to minimize the chance of failure. A business-mentoring scheme has been proven as a way to enable successful businesses in many countries. According to the Institute of Business Advisors (IBA), a business mentor refers to someone who is experienced in business, trustworthy and professional, trained and up-to-date in their advice. To support SMEs in responding to globalization and the rapid development of information and communication technology, the assistance of industry experts' in the areas noted above can be critical for SME success in developing countries.

### **2.2.2 The Creative Economy and Thai SMEs**

After the 1997 financial crisis, SMEs became even more important to the recovery of the Thai economy (Bakiewicz, 2004). To enhance SMEs' competitiveness, the Thai government's policies have focused on rising the value of SMEs' products and services through the creative economy concept. The Thai government's creative economy concept focuses on merging local identity and traditional knowledge with modern technology to create new products and services. These new products and services should react to the changing needs of their target customers, or be tailored to specific niche markets in order to offer the highest value to their customers. To succeed in the creative economy, business owners, experts and/or designers are required to present a balance between creativity and business objectives. SMEs are an important component of Thailand's economy and are established in every sector of the Thai economy. Over the past thirty years, SMEs have been vital for sustainability, long-term growth and employment. They account for about 99 % of all businesses, 40 % of national GDP and 77% of total employment. The two main issues that influence Thailand's SME success are management and information issues (Tannock et al., 2002). Among young and highly educated SME owner/managers, investment in the proper training was limited, and often informal and on-the-job (OTJ) training (Thassanabanjong et al., 2009). Previously, most Thai SMEs focused on low labor cost as a key advantage to carry on ; this is no longer viable or sustainable for the

country's long-term economic development. Considering Thailand's economic growth rate, the growth of SMEs is much lower when compared to large enterprises. As a result, the government has continuously focused on SME development.

In Thailand, family run businesses are generally considered as a subset of SMEs and it is difficult to define and acquire accurate information on the size, members and management structure of this SME subtype. Meredith and Abbott (1984: cited in Alizadeh, 1999)) defined family business as a business in which the ownership and management are controlled by one or more members of an immediate family and have some of the characteristics similar to SMEs. In addition, the owner/managers are a dedicated and enthusiastic team who adjust easily to the changing economy. According to Benson (1990), while 'general' business emphasizes performance and results, family business frequently relies on emotional-based loyalty, care and nurturance of family members. They also tend to have a desire to keep control within the family and often the head of the family is entitled to the top management position. Thus training is vital to family businesses and other SMEs in order to create new products and services in response to the changing needs of their target customers and tailored to specific niche markets in order to create the highest value for their customers.

As worldwide tourism continues to grow, so does the selling of creative goods and cultural services within the tourism industries. For Thailand's tourism industry, growth remains one of the most important factors for the Thai economy. Although, the tourism industry experienced worldwide decline during the global financial crisis, it is expected to be among the first to recover compared other industries. Thailand's tourism industry continues to expand in size, but large-scale mass tourism poses threats to the preservation of the environment and the culture. Thai policy makers must maximize the beneficial development from the tourism industry by developing suitable linkages with the products and services related to the creative economy. Handicraft producers, who support the tourism industry with their products, can create new products by combining local identity and traditional knowledge with modern technology. These new products should offer higher perceived value by target customers. For Thailand, the creative industry trade performance during 2002-2008

has experienced a trade surplus, when in 2008 the total trade surplus widened to 3 billion USD (Karndee, 2011: cited from UNCTAD, no date).

While many definitions are used in association with the term ‘creative economy’, the Thai government follows the UNCTAD definition and classification. Thailand’s creative economy concept is similar to Singapore’s and can be classified into four major groups including: heritage, arts, new media and functional creation (K.I.Asia, 2009), as described earlier.

Development toward the creative economy will not only contribute to Thailand’s economic growth (income, employment), but also improve the standard of equity and well-being for the nation. In order to encourage development in all four categories, The Thai government is attempting to attract high-level talent to work and live in Thailand. Such talents include designers, filmmakers, software developers, creative entrepreneurs and researchers. By attracting these talented people, Thailand will not only develop and create new intellectual property, but these people will transfer valuable skills and knowledge to a new generation of the Thai labor force. In addition, the Ministry of Education’s policy encourages student-centered and project-based learning to strengthen the creativity in Thailand’s education in order to produce new knowledge and creative people to support the creative economy. Northern Thailand, particularly in the upper Northern provinces talented students, graduates, entrepreneurs and experts are essential for sustainable development in creative industries.

### **2.3 Business Incubation (BI)**

According Adkins (2007), there are more than 1,100 business incubation (BI) programs in the United States, and as many as 5,000 globally. The popularity of BI programs is mostly driven from an assumption that BI helps to strengthen local economies because small business tenants and clients are more likely to survive the precarious early years than start-up enterprises that do not receive incubator support services (Hannon, 2004). For SMEs, business incubation has provided significant benefit for entrepreneur and technology development (Tsai et al, 2008).

BI can largely be separated into two groups: not for profit and for profit (NSTDA, 2007). The differentiation represents a philosophy with the border between the two types becoming increasingly blurry. The main objective of the separation between the two types is for classification. However the two types often overlap and differences of BI depend on point of origin, or founding source. Not for profit business incubation often originates in academia, research centers, local and central government, and through community support. This type of BI is often funded by central government and is operated by universities and research centers. For profit business incubation originates in technology firms, venture capital firms, consulting firms or entrepreneurial projects. This type of BI is new and has a limited track record compared to not for profit BI and mostly involves start-ups. The reasons behind for the profit BI are varied, but venture capital and consulting firms are commonly attracted by profit outlook and/or gaining more control of invested ventures. Technology firms on the other hand, are more proactive in taking action against losing their best staff and nurturing new talent for entrepreneurial development toward competitiveness.

BI characteristics are different depending on the origin and objectives (Hannon, 2004). However, the press and business analysts have attempted to recognize features of BI, developing a checklist of success factors. A five attributes list of main characteristics has been analyzed and identified from 185 BIs. The five attributes help to define the value proposition and organizational capacity of various types of BIs, which include the following: internal ideas, financial independence, in-house financing, and management focus on technology synergy. These characteristics should offer a guideline description to compare different BIs.

After reviewing a sizeable amount of literature, much attention has been devoted to the description of incubator facilities, but less attention has been focused on the incubatees, including the innovations they seek to diffuse, and the incubation outcomes that have been achieved (Bergek and Norrman, 2007). Previously, BIs were known for providing space and facilities, but recently, consultation became the main service (Tsai et al., 2008) In Europe, incubatees were generally more satisfied with the facilities and common services than the consulting or business networking assistance

(Abduh et al, 2007). Thus, to develop a more effective business incubation process, it will be vital to consider the capability of business consulting networks and other issues that drive commercialization. However, the differences in the nature of the incubator organization, i.e., public incubator, university incubator, private or individual incubator, must be specifically examined to develop suitable incubation processes.

Business incubators are confirmed in the literature as one of the most important instruments to develop effective employment and sustainable new start-ups to support knowledge based enterprise development. The concept of business incubation has been around for over 60 years (Lavrow and Sample, 2000). The concept began in schools and universities where students and professors were provide the opportunity to experiment and use their knowledge and research to start up new businesses. The concept of business incubation rests on the reason that if weak but promising new businesses, with a high probability of growing into successful ventures, can be recognized and assisted at an early stage, some of the resource loss associated with creative destruction can be prevented (Hamdani, 2006). Therefore the concept of business incubation should include public policymakers (local or central government) to drive the desired development and manage, among others, the problems of externalities, monopoly power, and imperfect information.

Unfortunately, but realistically, there is no single standard definition for business incubation. Large numbers of definitions are available in the academic literature and just as many have been adopted by industry associations and policymakers in different countries, reflecting local cultures and national policies. Generally, business incubation can be defined as an economic development tool designed to accelerate the growth and success of entrepreneurial companies through an array of business assistance resources and services (Lavrow and Sample, 2000). Typically, a business incubator's objective is to produce a business that will leave the incubation program freestanding and financially viable (Lavrow and Sample, 2000). It is clear that the business incubation concept is a popular issue, which is often used as a tool for government or policy makers to support economic development. As a result, supporters to business incubation, governments or policy makers are a crucial

factor in advocating business incubation.

Since a key objective of business incubation is to develop the incubatee's business skills (development their human capital/entrepreneurship), knowledge management can significantly impact the effectiveness of the incubation programs.

Business incubation programs do not only involve one single discipline, instead they require the integration of various disciplines, knowledge and skills. Therefore it is important that an appropriate knowledge management framework is developed to integrate and facilitate the incubation process. With regard to the incubation process, important issues of knowledge management include: knowledge transfer, knowledge sharing, knowledge creation and knowledge conversion. Therefore, a well-structured knowledge management framework can ensure the success and efficiency of the business incubation process.

To develop an effective knowledge management framework for business incubation programs, in depth research in areas such as modern business incubation, knowledge management tools and entrepreneurship must be carefully explored in order to obtain a holistic view (Adkins, 2007).

### **2.3.1 Modern Business Incubation**

The issue of business incubation remains controversial in high tech hot beds in North America and is rapidly catching on in Europe, Japan and elsewhere around the world (Lavrow and Sample, 2000). BI has already proven to be of significant value in advancing small and medium enterprise (SME) entrepreneurship activities (Tsai, 2008). However, the ambiguities about the concept of business incubation still remain. The incubation concept has emerged to enhance the significant roles played by small and medium companies in the economy, and to minimize the failure rate of start-up companies. On average the incubatee (client) remains with the incubation for two to three years; however, the new economy incubator aims to launch a new start-up within six to twelve months. As a consequence, a business incubation program must create a development strategy focused on accelerating the process of formation, development, and survivability of new start-ups in communities.

In the US, the new business incubation model emphasizes profitability goals associated with mainly private-profit organizations. In contrast, for developing regions like the Middle East, Central Asia and North Africa, the main goals are to create a viable business climate and stimulate free market capitalism. For developing regions, new start-ups and small businesses were recognized as an important factor to economic growth and satiability. Consequently, governments and non-profit organizations have been the primary supporters for most business incubation programs in developing countries. For-profit incubations have gained attention in this region but have not yet become substantial.

Many business incubation models have been developed, for example, Bricks and Mortar (BAM), Portal, The Hub, and “Eggubaor” (Lavrow and Sample, 2000). However, as noted earlier, these models should not be considered as standard models, since there is no one size fits all framework, due to environmental factors (i.e. program objectives, participants’ characteristics and experience, funds available, geographical and demographical differences). Regardless of form or model, business incubation has become a permanent part of the global economic landscape (Johnsrud, 2004).

However, the major challenge that most, if not all, business incubators face is a low success rate. This has long been a challenge to many researchers and practitioners. In a paper investigating and classifying clients’ satisfaction with business incubator services (Abduh et al., 2007), a survey of 24 incubators in Australia indicates that clients were generally more satisfied with facility related services than the counseling and business networking assistance services. Through current observation, most Thai business incubation programs currently face a similar situation. Therefore, the heart of future development should be centered on the process of incubation rather than facility services.

## **2.4 University Business Incubations (UBIs)**

UBIs have been created at schools and universities where students and professors were given the opportunity to experiment and use their knowledge and research to start up new businesses. In the case of the UK, universities have shown an capability to create new knowledge and to create innovative new products. As mentioned, the concept of business incubation is based on the rationale that if weak but promising new businesses with a high probability of growing into successful ventures (Hamdani, 2006). UBIs are similar to traditional business incubation in providing and supporting new knowledge for businesses, but their focus is on the transfer of scientific and technological knowledge from universities to firms (Grimaldi and Grandi, 2005; cited in Mian, 1996).

UBIs normally provide two main services including typical incubator services (e.g. shared office services, business assistance, access to capital, business network and rent breaks), and university related services (e.g. faculty consultants, student employees, university image conveyance, library services, labs/workshops and equipment) (Grimaldi and Grandi, 2005; cited in Mian, 1996).

### **2.4.1 Mason Enterprises Center (MEC)**

The Mason Enterprise Center is a US university-based economic development enterprise at George Mason University, which focuses on providing services for small businesses, government contracting, international business, entrepreneurship, technology ventures, and telework initiatives (MEC, n.d.). The center assists with the energy, skills and intellectual capital required for enterprise creation and expansion. Linking with the university, the center provides business owners with access to university resources such as faculty, students, alumni, researchers, information sources and research to support business expansion and development. The center continues to win awards for supporting small business development and receives positive testimonials from business participants and clients regarding counseling, staff services and expert support. To ensure business success, partnering with both government and

non-government entities was essential to support the business' objective (e.g. George Mason University, Small Business Administration, County of Fairfax, City of Fairfax, Prince William Regional Chamber of Commerce, World Incubation Network). The Mason Enterprise Center has four regional offices to perform different tasks including the Community Business Partnership, Fairfax Innovation Center, MEC-Prince William and MEC-Leesburg.

The procedure for a client to acquire counseling services requires the client to submit an executive summary or business plan. At the first counseling session, the center services are introduced, the executive summary or business plan are peer reviewed and networking with other entrepreneurs is encouraged.

## **2.5 University Business Incubation in Thailand**

Generally, business incubation programs in Thailand are at the early development stage (NSTDA, 2007). Thai UBIs were initiated in 2004, with a primary focus on facilitating start-up companies by employing universities to operate them. The attention and interest on business incubation had become noticeable after the 'Tom Yum Kung Crisis' in 1994. The government has since realized entrepreneurs (SMEs) as a vital source for national economic development. Organizations supporting business incubation in Thailand include the Organizations Office of Small and Medium Enterprise Promotion (OSMEP), the Commission on Higher Education, National Science Technology Development Agency (NSTDA), and the Kennan Institute Asia (K.I.Asia). The main organizations supporting BI in Thailand were public universities accounting for 82.6% followed by science parks (8.7%) and private universities (8.7%) (NSTDA, 2007). The Commission on Higher Education is the direct supporter, which oversees most UBIs' performance. The majority of UBI programs focus on providing facilities, consultation services (business set up and business management) and assist in marketing (business matching). The two major types of business incubation are in wall incubation, providing facilities and other basic services, and out wall incubation, mainly offering consultation services. The majority of other business incubation programs in Thailand are also supported by various

government organizations. According to the Commission on Higher Education, there are 22 UBIs established across Thailand, and most make an effort to utilize university human resources, intellectual capital and expand available research with the aim of commercialization. However, UBIs in many institutions have not yet succeeded in transforming their available intellectual resources into commercialize-able products or services.

In addition OSMEP is working closely with Thailand's industrial association and many others as strategic partners in providing facilities, staff and recruitment of tenants, often referred to as the concept of 'sharing of space and time'. The program is set to focus on four key areas which include basic business education, competency development, funding assistance and ICT skill.

According to an interview with OSMEP officers, the main focus of Thai BI programs remains provision of facilities (office space and equipment), funding and basic training, but appropriate attention should be given to development of the incubation process. However, it is important to understand that an effort to develop a one size fits all concepts for business incubation programs will not result in quality incubation programs. Recently established incubation programs have become more focused on specific types of industry, for example, Jewelry (Tak and Jantaburi province), printing (Bangkok), garments (Chaiyaphom), ceramics (Ratburi) and rubber (Nakhonsetommarat). However, most business incubations in Thailand are still faced with many obstacles (NSTDA, 2007), as listed below:

1. Issue of experienced and skilled manager
2. Issue of technical expertise
3. Issue of skillful management team
4. Issue of policy support at a national level
5. Issue of business expertise
6. Issue of supporting funds
7. Issue of policy support at an organizational level
8. Issue of strategic plans on business incubation
9. Issue of a clear understanding the objectives of Business Incubation

10. Issue of public awareness
11. Issue of seed funding
12. Issue of investor or venture capital

Typically, Thai BI programs offer three main services: networking/alliance forming, mentoring/training processes and business plan development. Generally, the mentoring, training processes (including shared office space and equipment) and business plan development often apply similar methods. Unfortunately, these processes are crucial for the success of business incubation programs, but are often overlooked. According to a Commission on Higher Education (NSTDA, 2007), a common advancement for most UBIs can be achieved by improve expertise and business networks.

Therefore, to develop an effective BI program, systematic review and development is required in order increase the rate of success and lower the business start-up risks. Furthermore, the business incubation environment (culture, structure and strategy) should be transformed to support different incubation objectives. During the incubation process, knowledge transfer and knowledge creation issues are very important in developing sustainable and competitive business start-up in today's knowledge-based economy. In addition, effective university business incubation program can be achieved by raising experts' motivation and contribution towards the university by facilitating continuous contribution from experts and/or expansion of the expert network (Nimmolrat, 2011).

This research will investigate the business incubation process with a focus on experts' contributions from a knowledge sharing perspective with a particular focus on the case of new product design and development, at the College of Arts, Media and Technology (CAMT), Chiang Mai University. In addition, the modern organization concept of 'ba' (Nonaka, 2004) will be applied, and an alternative business incubation process resulting from the knowledge management approach will be recommended to enhance experts' contributions, which in turn, will contribute to a more effective incubation process.

## 2.6 Case Study

The case study in this research was undertaken at CAMT, where the business incubation concept has continuously been a part of development strategy and is in line with Thai government policy. An e-tourism and e-handicraft project was undertaken by the college during 2005 and was one of many continuous efforts to incubate both students and entrepreneurs in developing their businesses. Recently, CAMT has undertaken the Creative Building for North SMEs project, which was conducted between March and September 2010. This project received financial support from the Office of Small and Medium Enterprise Promotion (OSMEP) and was operated by CAMT. The project development process involve university staff, experts and entrepreneurs, with collaboration as shown in Figure 2.2

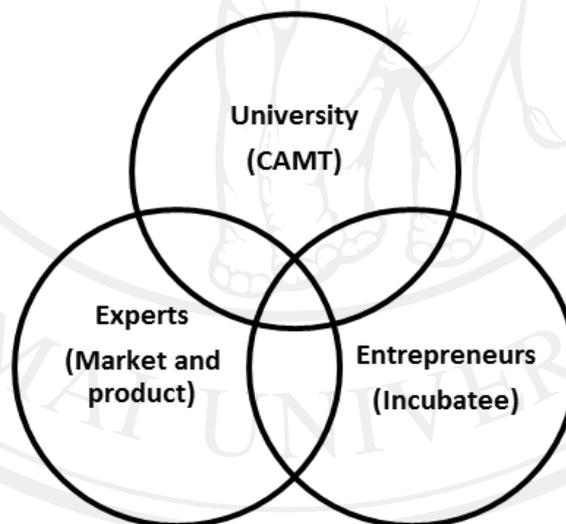


Figure 2.2 Cooperation requirements in the UBI process of Northern Thai SMEs

The project generated significant information and lessons learned which were gathered for analysis to improve the effectiveness of business incubation. Business incubators are here to stay and while they will evolve and change focus, they will never go away (NSTDA, 2007). In the market economy there will always be a need for business incubation services.

### 2.6.1 2E project

This section presents information from the e-tourism and e-handicraft project (2E) report. This project was operated by CAMT, Chiang Mai University in 1996. The nature of the 2E project relates to new product development in the creative industry as described by UNCTAD. The project's main objectives were to develop electronic marketing channels and human resources for tourism related businesses in Northern Thailand. The BI concept was employed as a guideline for 2E operation. Development of human resources was emphasized through activities such as training sessions and workshops, which aimed to advance participant knowledge of e-tourism and e-handicraft industries. A total of 43 companies applied and 19 companies were accepted to participate in this project. Since the tourism industry is a major source of local GDP, it is necessary that local tourism business operators receive proper assistance to strengthen their competitiveness in order to survive in today's rapidly changing business environment. According to the project manager, the e-tourism industry is new and receives continuous attention from businesses. A general view of this industry is described below.

The area of e-tourism is very broad, and many definitions exist. However, most realize the positive benefit of electronic commerce to the tourism industry. According to the E-Commerce and Development Report (ECDR), one of the main changes brought about by e-tourism was the disintermediation of the tourism value chain driving revenue directly to tourism providers (UNCTAD, 2008). E-tourism business activities are related to the marketing, buying and selling of tourism products and services on the Internet, to consumers (B2C) or the other businesses (B2B). E-tourism initiatives are well known for the delivery of services opposed to physical goods. This research focuses explicitly on the business to consumer (B2C) side of e-tourism business.

E-tourism products may relate to a physical product, such as hotels, spas, and resorts, but a larger part is related to the transformation of information, which is absent of constraints with respect to the in-process inventory. The constraints on an e-tourism process are obviously very different from those on a conventional process.

For example, consider the 24-hours/7-days availability that is almost a standard requirement for an e-tourism process. Therefore, it is essential for the development of new e-tourism products or services that tourism businesses must pay attention to the process of development in order to ensure quality, efficiency, and effectiveness. UBIs can facilitate and assist by providing the knowledge and expertise required by businesses.

Many companies have learned the hard way that successful e-commerce requires more than a flashy web presence. Existing business processes development must be seamlessly integrated with the new, electronic form of interaction with suppliers, customers and internal employees. Therefore, it is important to put the emphasis on the process context of e-tourism business development in order to enable seamless integration to ensure success. The purpose of such process integration is to meet the business requirements of e-tourism business, in particular improving its business performance.

When considering the 2E project, local tourism operators realized the importance of developing new marketing channels and business activities related to marketing. They also recognized the need to develop new e-tourism products and/or services to support e-tourism channels. As a result, the body of knowledge focused in the 2E project included the 3Cs (corporation, customers, competitors), STP (segmentation, targeting, positioning) and 4Ps (product, price, place and promotion), which are critical in developing a competitive e-tourism business strategy. The 2E project reveals the importance of marketing-related knowledge for new product development in a creative industry. Given the limited support from local government, limited knowledge about e-tourism and the limited information and knowledge of related products, markets, competitors, and consumers, there was thus a need for appropriate support from government, universities and experts to enable further development and long term business sustainability.

## 2.7 Theory and Framework

### 2.7.1 Knowledge Management

The phenomenon of the knowledge-based economy is investigated by researchers and keenly discussed among business people (Krogh et al., 2000). They count knowledge as a necessary condition of a society's development. Each person desires to know more because each wants to live better. However, to change people in favor of knowledge sharing is difficult and will be a serious challenge. The rapid development of information and communication technologies (ICT) and the improved streaming of information, communication and knowledge have affected most areas of human life. Knowledge has become the decisive material to become competitive in the midst of severe economic change under the notion of the knowledge-based economy (Krogh et al., 2000). For SMEs, knowledge management can promote a firm's growth and profitability (Omerzel et al, 2009). Firms that are capable to better manage their own knowledge base and invest in intensive knowledge (specifically associated with new markets) stand to win when compared to those that cannot manage their own knowledge base (Kang, 2007; Franco et al, 2011). However, firms must keep in mind that the personal exchange of knowledge is most important, while information systems play only a secondary part in KM (Karlsen et al, 2011).

Despite of the growing concern about organizational knowledge management, many companies and organizations have succeeded in developing their knowledge-based or knowledge assets. Knowledge management has received growing attention mainly as a consequence of the economic shift from old product-driven to new knowledge-intensive economies. Knowledge has become an important source of an organization's competitive advantage. In 1959, Peter Drucker used the term 'knowledge worker' in writing the book 'Landmarks of Tomorrow', which indicated the magnitude of knowledge as a source of future competitiveness. In addition, Nonaka and Takeuchi proposed a theory of an organizational knowledge-creating company and 'How Japanese Companies Create the Dynamics of Innovation' became one of the most popular books in the knowledge management literature (Nonaka and Takeuchi, 1994). Similar to other management concerns , the context of knowledge

management changes according to the changes in the economic and general environment. Nonaka and Takeuchi (1994) suggested that the economic producing power of a business lays more in the intellectual and service capabilities than its hard assets, like buildings, machines and equipment, and land. The value of most products and services are determined mainly based on knowledge-based intangible sources like technology, product design, market presentation, know-how and the ability to understand customers. In other words, value and success will ultimately lie in brains, not land and equipment.

Interest in knowledge management from academia has grown rapidly worldwide. Starting in 1995, an international conference relating to knowledge management was held in Houston, and during 1996-1997, over 30 conferences on knowledge were initiated mainly in the USA and Europe. As the concept of the knowledge economy became more widely recognized, terms such as knowledge officer and director of intellectual capital were created by many organizations to prepare for the concept of knowledge economy. Firms often operate centered around projects and the quality of knowledge management is clearly correlated with good project management practices (Leseure and Brookers, 2004). As a consequence, firms should concentrate on developing both their general operations and knowledge management practices.

In reality, knowledge management and knowledge creation are difficult to execute for many companies and organizations. Therefore, the following section of this literature review will try to blind the theoretical and practical areas of knowledge management and knowledge creation with a focus on the particular contexts of new product development, business incubation and entrepreneurship.

The following sections begin with a brief description of essential knowledge management terms such as the hierarchy of data, information, knowledge and wisdom, the distinction among know-what, know-how and know-why, the difference between explicit and tacit knowledge, the distinction between learning and a learning organization, and concepts of knowledge sharing and knowledge creation. Finally, issues of knowledge management will be examined, which will indicate why

knowledge is an important source for SMEs to drive competitive advantage and long-term economic sustainability.

Knowledge management (KM) is simply a process of capturing, recording, organizing, sharing and creating knowledge. In businesses, KM needs to address the development process rather than simply focus on content (Gao et al, 2008). KM processes need not include all content; the key objective of KM is improvement for increased effectiveness in operation. For organizations KM is a tool for managing organizational knowledge that resides within individuals, staff, experts and/or other knowledge workers. For higher performance ‘hands on’ and people involvement are necessary (Bishop et al., 2008). For every human being, group, team and organization (both virtual and non virtual) KM can be considered as a philosophy to manage oneself, the group and the organization for continuous improvement.

#### **2.7.1.1 Hierarchy of Data, Information, Knowledge and Wisdom**

##### ***Data – Information – knowledge–Wisdom***

Data is something that represents fact and can be both quantitative and qualitative in representation, usually unorganized and often not directly meaningful. However, data going through a specific process can become meaningful to a specific task or purpose, which could then be considered as information. Information is a form of useful data which represents something meaningful and understandable to all or some groups of people. As information becomes useful and/or applies to create certain knowledge or new knowledge, it becomes wisdom. However, knowledge requires special consideration, especially once involving a firm or organization (Randeree, 2006). Therefore, for a firm to achieve competitive advantage through knowledge, the management of knowledge is vital.

### 2.7.1.2 Distinction Among Know-What, Know-How and Know-Why

Lundvall and Johnson (1994; cite from Lundvall, n.d.) introduce the distinctions among four different kinds of knowledge:

- Know - what.
- Know - why.
- Know - how.
- Know - who.

Know – what refers to knowledge about ‘facts’. For example, knowledge about how many people lives in London and the ingredients in a soup. This type of knowledge is strongly related to a usual definition of information – it can be broken down into bits and communicated as data.

Know - why refers to knowledge on principles and laws of motion in nature, in the human mind and in society. This kind of knowledge has been particularly important for technological development in certain science-based areas such as for chemical and electric/electronic industries. To have access to this kind of knowledge will frequently make advances in technology more rapid and reduce the frequency of errors in procedures of trial and error.

Know - how refers to skills; for example, the capability to do something. It plays a crucial role in all activities in the economic sphere. The businessmen and women judging the market prospects for a new product or the personnel manager selecting and training the staff have to use their know-how.

Know – how normally develops and is kept within a boundary of an individual, a team or organization. It is essential that a team and an organization develop and share this type of knowledge.

Know - who becomes more and more important. The general trend towards a more composite knowledge base where a new product normally combines many technologies and each technology is rooted in several different

scientific disciplines, together with the speed up of change, makes it crucial to have access to many different sources of knowledge. Today, experts or those who know often hold this type of knowledge. The process involves identifying, co-operating and communicating with diverse kinds of people and groups.

The level of trust affects knowledge sharing of these four different kinds of knowledge in cluster condition (Sureephong, 2009). Therefore, it is important to identify, analyze and classify targeted knowledge by consider relationship among individual or organization to develop effective knowledge management process.

### **2.7.1.3 Explicit and Tacit knowledge**

#### ***Tacit knowledge***

Tacit knowledge is knowledge embedded within a person, which permits a person to automatically act in responding to a problem or event (Krogh et al, 2000). The topic has gained interest in last few decades and is often considered to be the most valuable knowledge, but very difficult to transfer and manage (Augier and Vendelù, 1999). However, it is possible to extract or capture this knowledge through some knowledge management tools but doing so requires expertise. Tacit knowledge also varies according to individual experience, behavior and perception. Therefore, two people rarely have the same tacit knowledge. When tacit knowledge is captured, it becomes explicit knowledge, which is often easier to transfer between individuals or groups. Moreover, tacit knowledge can be considered within both individual and group levels.

Individually, trust influences the willingness to share tacit knowledge (Holste and Fields, 2010). Therefore, the effectiveness of group sharing of tacit knowledge will likely depend on trust among the group. Tacit knowledge supports an organization's innovation capability (Harlow, 2008). Tacit knowledge transfer between two organizations is complex and poorly

understood (Foos et al., 2006). Therefore, to transfer tacit knowledge between organizations requires specific forms or procedures to ensure its advantage.

### ***Explicit knowledge***

Explicit knowledge is a form of knowledge that can be presentable or transferable, usually as a type of documentation. Explicit knowledge frequently arises from certain tacit knowledge that is being captured and expressed in a presentable form. It is commonly used for learning purposes. It is desirable for many organizations to transfer organizational tacit knowledge to explicit knowledge as much as possible in order to share and record it for further benefit.

In knowledge management practice, the distinction between tacit knowledge and explicit knowledge is often vague and ambiguous (Mooradian, 2005), which makes it difficult to develop and implement a KM strategy. Therefore, it is important that a firm develops proper KM models or frameworks, which can guide the firm to ensure understanding of the firm's tacit and explicit knowledge.

### **2.7.1.4 Learning and Learning Organizations**

#### ***Learning***

Generally, learning is interchangeable with the term study, but learning is much broader since learning often takes place every minute of an individual's life. Learning occurs when individuals are faced with certain experiences and is often connected with past experience, behaviors and beliefs. Learning can arise through experiencing new things, which in turn leads to a high amount of knowledge.

#### ***Learning Organization***

A learning organization is simply an organization that has the ability to learn. It can be compared to a dynamic organism which continuously adjusts in accordance with the surrounding environment. Similarly, a learning

organization (LO) is an organization that continuously adjusts to the changing environment. Often, the major factor of input which drives a LO is knowledge which translates to higher organizational productivity and performance. A LO also assist innovation by being concerned with the inter-connection between knowledge management, human resource management and innovation management (Lundvall, n.d.).

## **2.7.2 Knowledge Sharing and Knowledge Creation**

### **2.7.2.1 Knowledge Sharing**

The concept of knowledge sharing is not new and most organizations understand the consequences that impact organizational performance with and without it. Quinn (1992) explains that a unique characteristic of knowledge is that it is one of the few assets that generally grow exponentially when shared. The two main areas of focus related to knowledge sharing are at the organizational and individual level. First, the organizational level is concerned with how organizations share knowledge with other organizations. Most knowledge sharing occurs within the same industry to which the organizations belong, for example, in the information technology industry, companies share technologies which will allow products to communicate with each other. Second, at the individual level, as a part of an organization, individuals within the organization must share knowledge and learn new knowledge in order for the organization to remain and become more competitive.

Argote and Ingram (2000) define knowledge sharing as a process through which one is affected via the knowledge and expertise of another. In addition, the extent to which they utilize and build on each other's knowledge is an important aspect of knowledge sharing. In most organizations, knowledge sharing occurs in both formal and informal settings. Examples of formal knowledge sharing may occur in settings such as meetings, workshops, and seminars. Informal knowledge sharing mostly occurs in every day interactions between individuals or among group members. When information and knowledge are widely distributed and shared in an organization,

individuals and units within an organization will be more likely to learn, which then enhances the organization's effectiveness. Fundamentally, effective knowledge sharing is the reuse of available knowledge which saves work, reduces communication costs, and allows companies to handle more projects (Hansen, Norhria, & Tierney, 1999). However, an organization that aims to promote knowledge sharing should consider employee enjoyment, intention and attitude, which can positively affect the quality of knowledge sharing (Jeon et al., 2011).

### **2.7.2.2 Types of Knowledge Sharing**

As mentioned earlier, two main areas of focus related to knowledge sharing are at the organizational and individual level. According to the knowledge-sharing cycle that defines international organizational learning and knowledge sharing, knowledge sharing can be classified into three basic types (Krogh et al., 2000), which will be useful for analyzing SME knowledge sharing activity for new product development:

- Knowledge retrieval. Concern with knowledge sharing activities from the organization to individuals in the organization. The objective is to retrieve existing organizational knowledge for individuals to learn and knowledge becomes individual knowledge.
- Knowledge exchange. Involves the activity of knowledge sharing from an individual to another individual, intended at exchanging individual knowledge. In this activity, one individual learns from another individual for an exchange of shared knowledge.
- Knowledge creation. Involves knowledge sharing between individuals with the purpose of creating new knowledge. Knowledge creation consequences from the combination of existing individual, shared, or organization knowledge.

### **2.7.2.3 Individual Knowledge Sharing**

Key client or supplier relationships can be critical for today's business competitiveness and the lack of proper knowledge transfer can damage this valuable relationship (Drucker, Dyson, Handy, Saffo & Senge, 1997). Properly managed knowledge sharing can result in growth and other business opportunities. Therefore, organizational and individual knowledge sharing and learning can create additional value for the company. For example, the reuse of knowledge can lower additional work and communication costs, which allows companies to carry on more workloads (Hansen, Noria, & Tierney, 1999). Companies and any form of organizations can benefit from individual knowledge sharing activities. However, individual learning is distinctive in approach, strategy and preference (Knowles et al. 2005). Therefore, companies need to consider individual differences to stimulate knowledge sharing within and outside companies.

Nonaka (1994) mentions that organizational knowledge is created via a continuous dialogue between tacit and explicit knowledge. Examples of organizational knowledge management challenges are how to store, retrieve, utilize and share knowledge. Individual knowledge sharing success depends on honest communication, and respectful and trusting relationships (McNichols, 2010), which are vital for organizational knowledge sharing.

Individuals share knowledge in many different ways. Interaction with other people is a better way to learn compared to learning in a classroom-type environment (McChristy, 2002). Trust and mutual learning are two key factors for knowledge sharing. According to Ellis (2001), lack of trust is among the key barriers to knowledge sharing. Both the receiver and sender must trust that the information provided can be constructive and will be used properly. More importantly, as individuals share their knowledge, they like to think the receiver will value what they have shared (Dixon, 2002).

#### **2.7.2.4 Expert Knowledge Sharing and Communication**

Communication of professional knowledge is a crucial activity for today's businesses. Effective decision-making requires equally effective communication of experience, insight and know-how from various experts. The term 'tacit knowledge', 'tacit knowing', and 'know-how' are often used to represent expert knowledge (Oguz and Sengun, 2011). One dimension of knowledge quality can be viewed in terms of the actionable knowledge which is available from experts (Yoo et al, 2011). Apart from a lack of time and willingness to share, experts' tacit knowledge (actionable knowledge) has often been difficult to share (Wang et al., 2011).

Knowledge communication problems can be separated into four types (Ackerman et al, 2003; Eppler, 2007): expert-caused difficulties, manager-caused problems, mutual behavior of experts and managers, and expert-manager interaction. Expert-caused difficulties occur when it is cumbersome for the decision maker to grasp the insights of an expert, or when managers have difficulty in explaining their own constraints and priorities. Manager-caused problems occur when a manager is unclear about what he/she wants from the expert, and makes it hard for the expert to communicate knowledge. The problem of mutual behavior of experts and managers involves divergent experiences or attitudes causing a difference in understanding and a lack of feedback from both sides. The expert-manager interaction problem may be caused by time constraints, communication infrastructure, distractions, and interventions from others. Lastly, indirect causes stem from the overall organizational context of managers and experts and involve differences in tasks, priorities and interests. From the problems identified, managers or decision makers and experts need to adapt their communication style and content. In addition, adequate infrastructure, tools and the organizational environment must be appropriate to allow transparent and direct communication among them. However, organizations must pay attention to the issue of expert contribution and motivation, which is a vital factor to an organization's success. In addition, effective utilization of an expert can support individual tacit knowledge creation, which can ensure correctness and

is less time consuming to the organization (Johnson, 2007). However, for high-class professionals (experts), most of their experiences have always been met with success and rarely failure, which limits their ability to learn how to learn (from others.) Therefore, it is important to pay attention to the learning processes or activities that involve experts (Heiskanen, 2004).

### **2.7.3. Knowledge Creation**

The Knowledge-Creating Company by Nonaka and Takeuchi (1995) has become an essential reference for many researchers, academics and practitioners to understand how knowledge is developed, shared, created and applied in organizations. It has proved that the capability to create and apply new knowledge effectively constitutes the organization's competitive advantage. For businesses that focus on innovation, knowledge creation will become the most important factor when considering knowledge management (Andreeva and Kianto, 2011). The following framework explains the nature of knowledge, the place where knowledge is created and applied, and the process that supports the knowledge transfer between persons, groups and firms. Three issues that should be examined in a study about the knowledge creation process are: a) the different typologies of knowledge based on generally accepted criteria, b) the intention of different levels, entities or agents that are capable of creating knowledge, and c) how each entity develops, captures and transfers knowledge to different levels.

- First, Polanyi (1966), based on generally accepted criteria, addressed the distinction between tacit and explicit knowledge
- Second, there is no general agreement to determine how different entities are able to create knowledge. However, it can be argued that every group or organization constitutes individuals who own knowledge, learning abilities and abilities to systemically apply knowledge.
- Third, there are four levels of the knowledge creation process: the individual level, the group levels the organization level, and the inter-organization level.

In the Knowledge Creation Company, the focus is on creation of new organizational knowledge based on the study of successful Japanese companies. It begins by discussing in depth the term ‘knowledge’, which is important to further describe and analyze how new knowledge is created. From this book, knowledge is about beliefs and commitment of individual and/or organization, knowledge is a purpose of a specific stance, perspective or intension and knowledge is in relation to action (Nonaka and Takeuchi, 1995). Therefore, the dimension of knowledge is much deeper than what has traditionally been considered.

In addition, the Knowledge Creating Company depicts how knowledge is created through four courses including socialization, externalization, combination and internalization. These processes explain how knowledge is shared and created. More importantly, for higher achievement, it is suggested that this process must be a continuing process called the “Spiral Model.” Furthermore, emphasis is placed on the role of top and middle management in fostering knowledge creation.

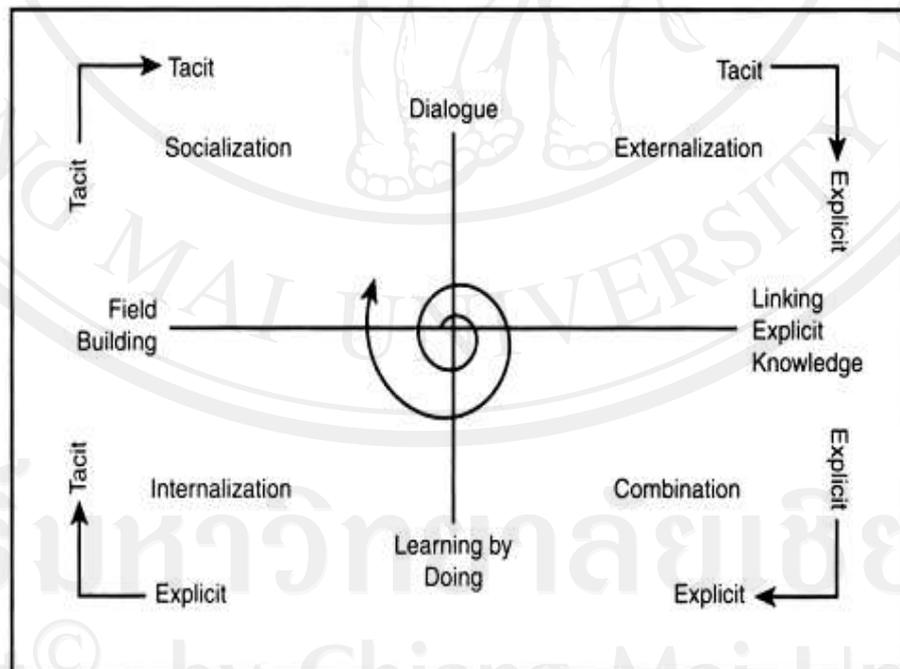


Figure 2.3 The Knowledge Creation Process (Nonaka and Takeuchi, 1995)

- **Socialization**

Socialization is the sharing and creating of tacit knowledge (Nonaka and Takeuchi, 2004) between individuals, shown in Figure 2.3 and often referred to as an experience of sharing individual to individual. Methods like observation, imitation or apprenticeships are used to exchange tacit knowledge. Socialization is a process of sharing experience, associate with sympathized knowledge particularly special techniques or know-how. It is the subjectivity differences in each individual that help in creating knowledge.

- **Externalization**

Externalization is a process of articulating tacit knowledge associate with conceptual knowledge through dialogue and reflection (Nonaka and Takeuchi, 2004), as shown in Figure 2.3. It converts tacit knowledge to explicit knowledge. This process is vital to the knowledge creation model. The explicit knowledge can be metaphors, or analogies from which the concept will be formulated.

- **Combination**

Combination is a process of integrating explicit knowledge with other explicit knowledge. It is a process of systemizing and applying explicit knowledge, associate with systemic knowledge and information (Nonaka and Takeuchi, 2004), as shown in Figure 2.3. It is a process that combines different contexts of explicit knowledge via media including documents, conversation, or computerized communication networks where new knowledge such as manuals and work processes are created. The explicit knowledge can then be easily distributed and transmitted to the target audience.

- **Internalization**

Internalization is a process of learning and acquiring new tacit knowledge in practice (Nonaka and Takeuchi, 2004), as shown in Figure 2.3. It transforms explicit knowledge into tacit knowledge, often associate with

operational knowledge, where individuals extract the new explicit knowledge into their own brains. Explicit knowledge in a form such as documentation helps individuals to internalize the knowledge and then create their own tacit knowledge, which continues a new spiral process.

○ **‘ba’**

‘ba’ is one of the important concepts in knowledge creation (Nonaka and Takeuchi, 2004). Ba is a Japanese word which generally refers to a place. It is the base of knowledge creation activities, where dialectical dialogues and practices take place. Ba can be considered as a shared space for building relationships and advancing individual and/or collective knowledge. Since knowledge is context-specific (Hayek 1945), the core of ‘ba’ is the context of knowledge shared and the relationship among those individual or group who shared at a specific time and space, not a physical space itself. Participants in ‘ba’ require collaboration that relies on trust, empathy, sharing, caring, love and confidence. ‘ba’ can be classified into four types, as follows:

- Originating Ba (face-to-face)
- Interacting Ba (peer-to-peer)
- Cyber Ba (virtual collective)
- Exercising Ba (virtual individual)

Other than ‘ba’, human subjectivity differences help in create new knowledge (Nonaka & Toyama 2007). The individual differences in subjectivity, and how individuals view the world differently can assist in creating new knowledge.

#### **2.7.4 Knowledge Creation and Incubation Processes**

According to Nonaka (2000), knowledge and skills provide a firm competitive advantage because it is through this set of knowledge and skills that a firm is capable to innovate new products, processes, services, or improve existing ones more

efficiently and/or effectively (Krogh et al., 2000). Although the terms innovation and creativity have been broadly promoted among academics, businesses and business incubation programs, a definite distinction of definition and understanding have not been commonly understood. In South East Asia, the terms innovation and creativity are often used interchangeably. Therefore, when developing new solutions, it is often difficult to separate the terms creativity and innovation.

With regard to business incubation programs, both issues of creativity and innovation are essential, and should be viewed as parallel processes of business incubation. During the incubation process, new knowledge is formed, which can be created through the knowledge conversion process (Krogh et al., 2000). It involves interaction between tacit and explicit knowledge rather than an individual consideration of tacit or explicit knowledge by itself. Nonaka and Takeuchi (1995) also suggests that firms can be conceptualized as a dynamic configuration of 'ba' and can generally represent a place where participants share time and space to interact in the knowledge conversion process. In addition, business incubation involves multi-disciplinary knowledge, which is vulnerable to failure when compared to a single disciplinary area. As a result, to develop an effective business incubation process, the issue of knowledge management in creating new knowledge through appropriate 'ba' is vital for improvement. With support from literature, there is evidence that 'ba' exists during various knowledge creation processes. More importantly, 'ba' can be built by management in order to facilitate organizational knowledge creation.

Therefore, to construct a knowledge management framework for the business incubation process, participants' tacit knowledge and explicit knowledge and 'ba' need to be solicitously considered.

#### **2.7.4.1 Knowledge Management and Global Companies**

Knowledge management is greatly centralized. The head office of a global company typically accumulates technical and strategic knowledge for new product development and breakthrough ideas. As knowledge creation is mainly reliant on tacit knowledge, the creation of tacit knowledge is often accomplished through casual and

open interaction among individuals who are physically close (Nonaka and Kazuo, 2007). For many global companies with offices in various locations around that globe, physical distance may adversely influence knowledge conversion, in turn limiting knowledge-creation potential.

It is not likely to develop standard documents for sharing tacit knowledge, which is often related to 'feel' and normally comprises a fragment of information. Like clusters in Silicon Valley and Hollywood, university business incubation programs have advantages in terms of physical proximity (among university staff, experts and entrepreneurs), which makes the knowledge conversion process (SECI model) less difficult when compared to international companies that rely on a global supply chain.

#### **2.7.5 Expert communication problems**

Communication of professional knowledge is a critical activity for today's SMEs. Effective decision-making requires equally effective communication of experience, insight and know-how from various experts in many related areas. Knowledge communication problems can be separated to five types (Eppler, 2007) as follows: expert-caused difficulties, manager-caused problems, mutual behavior of experts and managers, and expert-manager interaction. Expert-caused difficulties arise when it is cumbersome for the decision maker to grasp the insights of an expert or when managers have difficulty in explaining their own constraints and main concerns. Manager-caused problems take place when a manager is unclear about what he/she wants from the expert, and makes it difficult for the expert to communicate knowledge. The problem of mutual behavior of experts and managers implies divergent experiences or attitudes causing a difference in understanding and a lack of feedback from both sides. The expert-manager interaction problem may be reasoned by time constraints, communication infrastructure, distractions, and interventions from others. Lastly, indirect causes stem from the overall organizational context of managers and experts and include differences in tasks, priorities and interests. From the problems identified, managers or decision makers and experts need to adjust their

communication style and content. In addition, ample infrastructures, tools and the organizational environment must be suitable to allow transparent and direct communication among them.

University business incubations, like business clusters, have advantages in terms of their physical proximity, which is a constructive factor in the knowledge conversion process (SECI model). However, to ensure medium-term and long-term success for the university NPD project and/or UBI center, there is a need to overcome a number of difficulties.

### **2.7.6 Summary**

Many developing countries have focused on developing more attractive goods and services to enhance their export (UNCTAD, 2002). Like many developing countries, Thai government has applied the creative industry concept to its national development strategy. With various culture and social wisdom, Thailand employs these resources as the major driver to its creative industries. However, new knowledge from professional is still limited in assisting Thais' SMEs toward creative industries. Therefore, UBIs can support SMEs development toward creative industries by employing proper knowledge creation process (see figure 2.4) in providing new knowledge and transferring scientific and technological knowledge to SMEs. (Grimaldi and Grandi, 2005; cited in Mian, 1996).

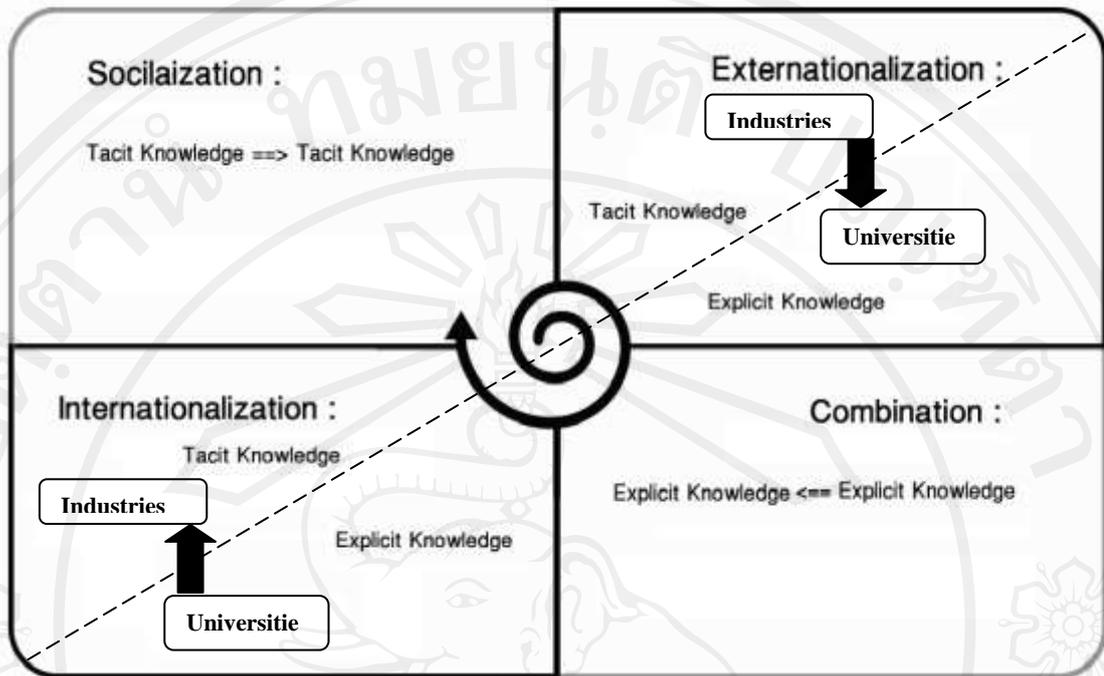


Figure 2.4 Industries and Universities knowledge Creation  
(adopted from Nonaka and Takeuchi, 1995)