

CHAPTER 3

RESEARCH METHODOLOGY

This chapter presents the methodology and associated processes used to achieve the research objectives. The focus of this research is to identify, develop and test a university business incubation model aimed at enhancing Thai's creative industries. To develop this model and the associated processes, an appropriate and effective research methodology is required to ensure reliability and consistency of the research.

This research was based on a single case study, and in relation to this, Yin (1994) indicated that six sources of evidence are often employed in a case study method. These are documentation, archival records, interviews, direct observation, participant observations, and physical artifacts. Data gathered in this study included all of these aspects.

The main contribution of this research has benefits associated with managing Thai university business incubations. This research aims to identify and develop university business incubations, as well as the process of new product development, with a particular focus on the effectiveness of knowledge management among university staff, experts and entrepreneurs (incubatees). The research began by investigating the new product development process within a project-based environment at the College of Arts, Media and Technology (CAMT), Chiang Mai University, and then scaled down from the organizational level to an individual level in order to capture the essential details required in this research. The outcome of this research was a knowledge management model and project management process suggestion, which can improve the effectiveness of university business incubation from a knowledge management perspective. Other than academic value, this research also contributes toward the practical management of new product development in business incubation in area of creative industries.

3.1. Research Design

This research employed an exploratory approach as the research focus involves university business incubation projects and SMEs in the area of creative industries. Research in this area is limited and there have been very few studies applying a knowledge management perspective in the Thai context.

Exploratory research is a perspective, or a way of approaching and carrying out a social study, which involves presenting and reporting on what has been learned (Given 2008). Given that this research focuses on knowledge management in the context of SMEs and university business incubation, most knowledge management activities are likely to occur informally (Nunes et al. 2006) and to capture the necessary details required in this research, the exploratory approach should provide reliable and practical results for further research. Therefore, the research methodology was designed to capture essential information required for analysis. The research design is shown in Table 3.1.

Table 3.1 Research Design

Processes	Tools	Expected Result
1. Identify limitations and requirements of Northern Thailand's SMEs	Literature Reviews Document analysis Observation	Limitations experienced by Northern Thailand's SMEs in terms of development in the creative industries
2. Analyze and identify business and knowledge management strategy	Literature reviews Document analysis	Identification of Northern Thailand's SME business and knowledge management strategies
3. Identify Critical knowledge required for SME development	Semi-structured interview Observation The critical knowledge factor grid	Critical knowledge required for Northern Thailand SME development in the creative industries

Table 3.1 Research Design (continued)

Processes	Tools	Expected Result
4. Identify knowledge creation process	Semi-structured interview Expert reviews Analyzed SECI model	Identification of the knowledge creation process in a university business incubation project
5. Identify critical knowledge creation process	Semi-structured interview Expert reviews Analyzed SECI model	Critical process in university business incubation knowledge creation process
6. Development of knowledge management model	Analyzed SECI model Expert reviews	Knowledge management model for Thailand's UBIs
7. Develop knowledge management implementation framework	Analyzed SECI model Expert reviews Systems theory	Knowledge management implementation framework for Thailand's UBIs

This exploratory research approach has no formal or structured research design; it is flexible and limited in structure. The research design was therefore driven by the research aims and objectives to answer a particular research question, thus contributing to the development of valid and reliable information and knowledge to solve specific problems.

The qualitative methods in this exploratory approach comprised of semi-structured interviews, observation and expert reviews to investigate the limitations of Northern Thailand's SMEs in terms of development in the creative industries. The techniques analyzed and identified a knowledge management strategy, identified

critical knowledge, determined a knowledge management framework for Northern Thailand's SMEs, identified the critical knowledge creation process, and finally developed a knowledge management model and knowledge management implementation framework for Thai UBIs. The data collection, data analysis and validity are explained in following section.

3.2 Data Collection

Data collection was carried out through the semi-structured interviews, observation and expert reviews. This data collection procedure was employed in order to ensure flexibility and capture important details of the case study, which was likely to be informal. A semi-structured interview was undertaken with each incubate, staff and industry expert. The interview included questions that addressed the purpose of the study by taking into consideration the nature of the interviewees (experts, business owner and project staff), the objective of this research, and the time and accessibility to complete the interviews and data gathering.

The interview population consisted of participants who were actively involved in the university business incubation project at CAMT, Chiang Mai University. The project's main objective was to develop new products according to the UNCTAD creative industries definition. This project (supported by OSMEP 2011) included 17 businesses (incubatees), 3 actively involved staff, 5 industry experts and 1 project manager (see Appendix D).

The observation took place from the beginning of February 2011 to the end of October 2011 (the end of the project), following project operation process (see Appendix B). Due to data protection and privacy concerns in the creative industries and with regard to research ethics, prior to conducting the interviews, respondents were informed of research objectives and permission was requested prior to the interview sessions.

3.2.1 Interview approach

According to Walsham (2006), interviews are a part of most interpretive researches as a key technique of accessing the interpretations of informants in the field. In this research, the semi-structured interviews were primarily used to collect data to gain insight into the participants' current construction of their feelings, motivations, and concern, and their reconstructions of past collaborative experience related to participating in this project. Semi-structured interviews also offer flexibility in probing important details, information and contextual issues related to the informal knowledge management activities of the university business incubation project. Such flexibility will provide participants with more freedom to express their personal perspectives in their own unique way (Guba et al., 2000). This type of interview format allowed in-depth information to be sought through basic guideline questions, while still allowing the emerging questions and critical issues to be explored (Ayyub 2001; Clayton 1997). The research sought expert opinions from academics regarding the proposed interview program, and prior to the interviews, pre-interview discussions were conducted. Two pre-interview discussions aim to strengthen the interview, took place with actively involved project staff. The Thai version of the interview was conducted near the end of the project in October 2011. The interview questions were made with consideration of the Thai culture and approval was obtained prior to the data collection process being undertaken.

Table 3.2 Interviewees' Characteristics and role in the UBI project

Interviewees	Gender	Experience	Project Status	Related Industries
P1	F	9	Incubatee	Heritage
P2	F	5	Incubatee	Heritage
P3	F	20	Incubatee	Heritage
P4	F	7	Incubatee	Heritage
P5	M	7	Incubatee	Media
P6	M	10	Incubatee	Media

Table 3.2 Interviewees' Characteristics and role in the UBI project (continued)

Interviewees	Gender	Experience	Project Status	Related Industries
P7	M	14	Incubatee	Functional Creation
P8	M	20	Incubatee	Functional Creation
P9	M	18	Incubatee	Functional Creation
P10	F	11	Incubatee	Functional Creation
P11	M	13	Incubatee	Functional Creation
P12	M	12	Incubatee	Functional Creation
P13	M	1	Incubatee	Functional Creation
P14	F	14	Incubatee	Functional Creation
P15	F	35	Incubatee	Functional Creation
P16	F	2	Incubatee	Heritage
P17	M	6	Incubatee	Heritage
X1	M	7	Expert	Home Decorative Items
X2	M	10	Expert	Product and Fashion Designer
X3	M	6	Expert	Ceramic and Home Decorative Items
X4	M	7	Expert	Home Decorative Items
X5	F	7	Expert	Product and Packaging Design
S1	F	2	Project staff	-
S2	F	6	Project staff	-
S3	M	10	Project staff	-
M1	M	10	Project manager	-

Given that the available data regarding Thailand's creative economy is still limited, the distribution of key participants indicated in table 3.2 was considered to be sufficient in providing an accurate perspective of UBI projects for Thai SMEs. Further detail on UBI for Thai SMEs is providing in Chapters 4 and 5.

3.2.2 Literature reviews

In the data collection process, literature on SMEs, creative industries, UBI, knowledge creation and expert knowledge sharing was reviewed. The interview process was created using the literature, conceptual framework and research objectives. The literature and investigation of previous case studies have already been presented in Chapter 2. The semi-structured interview and open-ended questions were designed, based on investigation of the previous case studies. From the analysis of the collected data, the research findings were analyzed and discussed are presented in Chapters 4 and 5 respectively.

This research aims to investigate issues for SMEs in the context of Thailand's creative economy with a focus on the handicraft industry in the northern region. Therefore, to focus on the research objectives, develop a knowledge management model and propose a process for Thais' UBI, the research design follows seven steps, as previously indicated in Table 3.1.

3.2.3 Data collection technique

Data collection in this research stressed the triangulation technique, utilizing multiple data-gathering techniques to investigate the same phenomenon (Denzin and Lincoln, 2005). Cohen and Manion (2000) indicated that triangulation is an effort to map out, or describe more completely, the richness and complexity of human behavior by studying it from more other standpoint (Rowbottom & Aiston 2006).

Following the triangulation technique, semi-structured interviews, participant observation, expert reviews and document analysis will be employed in this research. Data collection in this research employed several techniques. The four data collection techniques used in this research are as follows:

1. Semi-structured interviews which included incubatees, actively involved staff, industry experts and project manager
2. Participant observation, which aimed to capture the essential detail required in this research, based on a single case study. The observation by the researcher was completed during the ten months of the project activities. Observation data regarding the SMEs' environment, relationship and interaction among project participants, project activities and knowledge management initiatives were considered as primary data to support and validate further analysis and conclude this research.
3. Expert reviews were conducted after identifying and analyzing processes of incubation, the summary and findings were reviewed with appropriate experts in order to validate the findings.
4. Document analysis took place using documents from several areas including UBIs, SMEs, expert sharing, similar case studies and knowledge creation. Documents were examined and analyzed to ensure the detail required by the research was collected and a balanced picture of the situation was achieved (Collings & Watton 2011).

3.3 Data analysis

Following data collection, the data analysis procedure in this research adopted an interpretive approach. According to Walsham (2006), theory employ in this research can provide ways in which the data gathered or derived from the interviews can be analyzed. The gathered data and information can be analyzed to create themes, patterns, understandings, and insights, which are fruitful for subsequent analysis in qualitative inquiry.

In this research the interview data were transcribed and rechecked for accuracy by the researcher and staff. Given that the interviews were conducted in Thai, the summaries of interview result transcripts were translated into English prior to analysis. This analysis was carried out as follows:

1. Transcriptions of each recorded interview session from each participant interview and conversation were transcribed in Thai by staff and rechecked by the researcher. The records were captured using a digital recorder so that any unclear conversation was revised by listening repeatedly until it was clear. Lastly, the transcribed data were reviewed and summary of important data for this research was translated into English.
2. Coding and classifying data into meaningful categories involved detecting and describing themes, patterns and concepts and then organizing data into meaningful categories to be able to understand and explain these themes, patterns or concepts (Bryman & Burgess 1994; Creswell 2007; Miles & Huberman 1994; Ritchie et al. 1994; Silverman 2001).
3. Analysis is the process of classifying and arranging data for meaningful analysis according to research objectives. Patton (2002, p.5) concluded that the process of data analysis indicates that “the voluminous raw data in these field notes are organized in to readable narrative description with major themes, categories, and illustrative case example extracted through content analysis.” Content analysis is a technique that systematically and objectively makes inferences and identifies particular characteristics of a message, and was employed in this research along with the interpretive approach. Neuman (2006, p. 87) defines the interpretive approach as the “systematic analysis of socially meaningful action through the direct detailed observation of people in natural settings in order to arrive at understandings and interpretations of how people create and maintain their social worlds.”

3.4 Validity

Moret et al. (2007) points out that validity is an tool for improving research methodology and Godwin (2003) explains that explanatory research seeks to maximize the internal validity by assuring rigorous control of all variables rather than the intervention. Discussing validity is important not only for estimating the trustworthiness of research or study findings, but also for examining the aims and

scope of the method used (Moret et al. 2007). Golafshani (2003) indicated that there were two forms of validity in case study research: internal and external validity.

With regard to internal validity, the creative industries were classified by UNCTAD and adopted by the Thai government as a direction for economic development. A total of 17 businesses were analyzed in this research, and in terms of the data collection process, semi-structured interviews were designed and implemented to ensure that the interviewees were free to introduce issues that they considered relevant and important to discussion. To confirm that internal validity exists, the researchers must ascertain whether the summary or findings are in accordance with the experience and whether the substance of the data is relevant in the study.

External validity relates to the conformability and transferability of findings and conclusions (Onwuegbuzie & Leech 2007). Accordingly, external validity in this research is based on theories and previous case studies that provide initial knowledge and substantial information for the researcher to comprehend and compare findings from the interviews. As Kvale and Brinkmann (2008) and Neuman's (2006) suggestion, the validity of the study can be improved through a prolonged engagement. This refers to sufficient time spent on knowing and learning the culture of participants, and testing for misinformation introduced by distortions. This was undertaken in this research to build trust among members of the project. In this research it was important to become familiar with the experts and business owners in each company enrolled in the project, and communicate in terminology that experts or business owners would be familiar with (e.g. new product, creative and new market). Interviews were carried out at business sites or the locations most suitable and convenient for the interviewee. The ambience during the interview session was comfortable and the participants felt relaxed during the interview session. In following chapter, the result and analysis of this research is present and purpose knowledge management model for Thais' UBI.