

Chapter 3 : RESEARCH METHODOLOGY

3.1 Research method

The primary purpose of this study is to build an understanding of the relationship between the potential and realized ACAP and benefit realization in the post-adoption period. In other words, this study intends to verify propositions 1 and 2. Proposition 3 is not tested in this study due to resource constraints. Thus, this study is organized around a single research question: why are organizations able to gain benefits from ERP systems after implementation? This study develops answers from existing literature and builds a research framework using a semi-structured questionnaire (Appendix A) and propositions for further verification and enhancement.

3.2 Research process

Constructs of the study are summarized in Table 3.1.

Table 3.1 Research process

Steps	Objectives	Approach	Results
1	Understand theory of absorptive capacity and ERP post-adoption from existing knowledge	Literature review	Description of research constructs
2	Build the success factors of ERP adoption	Literature review	<ul style="list-style-type: none">• Structured factors of ERP adoption divided into two dimensions of absorptive capacity• Three propositions
3	Write up cases	Case analysis	Case report
4	Cross cases analysis	Triangulate cross case data	Cross-case finding and confirmed propositions
5	Form knowledge of ERP post-adoption with absorptive capacity	Triangulate interview results and relevant literature comparison	Enhanced understanding of ERP post-adoption behaviors and conclusion

First, a literature review of the existing knowledge provides a basis for identifying factors affecting the success of ERP systems post-adoption, using the concept of absorptive capacity and the propositions about relationship between organizational benefits and absorptive capacity of ERP systems.

Second, this study uses the definition of absorptive capacity (Zahra and George 2002) and the ERP systems benefits (Shang and Seddon 2002) to develop the questionnaire of this study (attached in Appendix A). The statements in Appendix A were rated on a Likert scale ranging from 1 (very low) to 5 (very high). Open questions were asked to enhance the list, iterative verification was performed, and detailed case descriptions were requested to support the selected statements.

Third, this study selected four companies from different industries in Taiwan and interviewed their chief information officer (CIO). The selection of the cases are based on the following criteria :

- 1) They are highly competitive firms
- 2) At least three years had elapsed since completion of ERP system implementation and “go-live.”
- 3) The companies this study chooses were identified by industry experts who have accumulated knowledge about the absorptive capacity of the four industries.
- 4) Top managers of ERP project team are willing to share information and experience about ERP implementation.

Profile of companies is summarized in Table 3.2. Each CIO was interviewed for about two hours and discussed their firm’s training policies for ERP systems use, exploitation of ERP systems, and the benefits the ERP systems had created for their company. As the benefits ERP systems can bring are estimated by CIO.

Fourth, this study applied a case study methodology to gain understanding of the propositions. Using within- and cross-case analysis, all interviews are then transcribed and compared with other interviews and documents from different organizations. Each case was deeply discussed and analyzed to understand its potential and realized ACAP in ERP systems implementation and use. To discover the commonalities and differences between cases, cross-case analysis was conducted to more deeply analyze and consolidate interview results and case studies. In this stage, the researchers formed preliminary findings and confirmed propositions.

Finally, preliminary findings and confirmed propositions were consolidated to form further findings that provide more insights into ERP systems implementation and use. A conclusion was formulated based on the verified and validated results.

Table 3.2 Profile of companies

Company	A	B	C	D
Industry	Logistics and delivery	Sales and marketing	IC distributor	Computer manufacturing
Revenue /per year	NT 30 million	NT 25 million	NT 180 million	NT 900 million
Go-live years	Over ten years	Six years	Five years	Over ten years
Implemented modules	Inventory management, Finance and CRM	Distribution, Finance, Procurement and Supply chain planning	Distribution, Finance, Procurement	Almost all modules
Interviewee	CIO	CIO	CIO	CIO
Interview time	100 minutes	100 minutes	90 minutes	120 minutes

