



CHAPTER 5

APPLICATION OF NEW PRODUCT INTRODUCTION SUCCESS FACTORS IN AN EMS COMPANY

5.1 Concepts evaluation

Application of New Product Introduction Success Factors in an EMS company will be evaluated through a thorough review of literature and field interview.

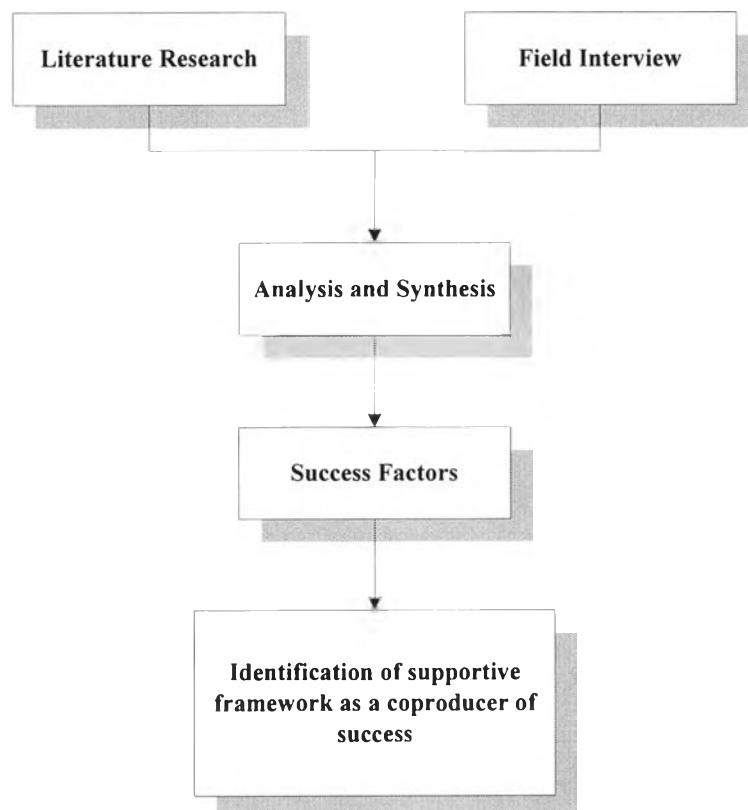


Figure 5-1: Methodology for identifying success factors in new product introduction

5.1.1 Field interviews

Field interviews were constructed in order to explore how widespread the application of the main concepts of the new product introduction success factors from literature review to an EMS company.

Four expertises in the field of new product introduction process were interviewed, the success factors from literature reviews were discussed and developed in order to applicable to the company capabilities.

5.2 Company Capabilities

According to literature reviews and results from field interviews, the company's capabilities for successful new product introduction are Knowledge Integration, Problem Solving and Uncertainty Reduction, Continuous Concurrency, and Simplicity.

1. Knowledge Integration

A company's ability to integrate and embed in shared knowledge, learning and communication and information evaluation.

1.1 Shared knowledges in this study are shared knowledge of customer, supplier, and internal capabilities.

- **Shared knowledge of customer** refers to the extent of a shared understanding of current *customers'* needs and future value to customer creation opportunities among product development members (Narver and Slater, 1990; Griffin and Hauser, 1991; Calantone, et al., 1995; Calantone, et al., 1996).
- **Shared knowledge of supplier** refers to the extent of the shared understanding of *suppliers'* design, process, and manufacturing capabilities among product development team members (Maas, 1988; Hahn, et al., 1990; Slade, 1993).

- **Shared knowledge of internal capabilities** refers to the extent of a shared understanding of the firm's internal design, process and manufacturing capabilities among product development members (Clark and Wheelwright, 1993; Garvin, 1993; Adler, et al., 1996).

1.2 Learning in this study is the ability to sustain significant improvements in development over long periods of time rests on the capability to learn from experience (Wheelwright and Clark (1992, p.284).

1.3 Communication and information evaluation capability refers to the ability to has effectively use of communication and information flow between the team (Lawrence and Lorsch, 1967; Barclay, 1992a; Hart, 1995).

2. Problem Solving and Uncertainty Reduction

A company's ability to identify and solve problems early and the ability to avoid and reduce uncertainty already in the early phases by applying quality management practices such as lean, TQM, and countinuous improvement principles (Wheelwright and Clark, 1992; Miller, 1995; Karlsson and Ahlstrom, 1996; Barclay, 1992b; Krehbiel, 1993; Adler et al., 1996; May and Pearson, 1993; Fisher and Kirk et al., 1995; Debackere et al., 1997).

3. Continuous Concurrency

A company's ability to overlap tasks in the early phases and keep relevant people and functions continuously involved from the early to the late phases under the supportive from top management. By the use of cross-functional or multidiscipline team, close relationship with customers and suppliers, top management commitment and visible support will lead to successful continuous concurrency (Lawrence and

Lorsch, 1967; Hart, 1995; Song et al., 1997; Rothwell, 1992; Wheelwright and Clark, 1992; Cooper and Kleinschmidt, 1993; Swink et al., 1996; Griffin, 1997; Bozdogan et al., 1998; Ragatz et al., 1997; Wasti and Liker, 1997; Pawar and Riedel, 1993; Swink et al., 1996).

4. Simplicity

A company's ability to *reduce complexity* in products, processes, systems, documentation, and organization, and by this reducing the overall development task and making the individual tasks simpler, thus enabling the other capabilities. By applying the following tools and practices will promote two strategic capabilities, cross-functional integration and an efficient and effective NPD process, which can then become a source of competitive advantage (Cooper, 1994; Thomas, 1993; Barclay, 1992b; Rothwell, 1992; Rosenthal and Tatikonda, 1992; Baker, Brown et al., 1983; John and Snelson, 1988b; Markham and Griffin, 1998, Hart, 1995; Wheelwright and Clark, 1992; Baxter, 1995).

- Quality Function Deployment;
- Design for Manufacturability;
- Design of Experiments;
- Computer-based tools;
- Prototypes;
- Target cost management.