

Exploring New Zealand management
attitudes to customer involvement in new
product development in the health
supplement industry

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the qualification of any other degree or diploma of a university or other institution of higher learning, except where due acknowledgement is made in the acknowledgments.

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Abstract

New product development (NPD) is seen as one of the most important business strategies that are widely undertaken by many firms. It is a very effective and efficient way to satisfy the expectations of customers. However, current customers' expectations are changing fast, as well as being difficult to define. Therefore, involving customers in the actual process of new product development is becoming more popular. Customer involvement is an important and effective way for firms to gain knowledge of customers more easily, especially knowledge of their needs and what will satisfy those needs.

In the New Zealand health supplement industry, the competition is intense and the market environment is complex and unpredictable. Thus, based on the established theoretical literature of Cooper's (2001) seven-stage NPD processes and Baxter's (2007) six-dimension evaluation framework of NPD success, the main aim of this study is to create an in-depth understanding of customer involvement in the process of NPD. Also this study determines at which stages are customers involved in NPD in the New Zealand health supplement industry. In addition, this research will explore the understanding of the key determinants of NPD success and key factors of NPD success evaluation in the New Zealand health supplement industry.

In this study, the multiple case studies technique was employed as the main empirical research method. In addition to the case studies, several sources were used for secondary data collection, such as the AUT online database and business articles. For the primary data collection the purposive sampling method was used to investigate six companies in the New Zealand health supplement industry, by interviewing the product development manager, general manager or CEO of each of companies. The collected data from interviewees in those six companies was analyzed using the technique of pattern matching.

The findings of this research suggest that the key determinants of NPD success include market knowledge, product knowledge and relationships that must be considered by firms. In other words, knowledge of the market and product and their relationships are very important for firms to plan and operate a successful NPD project. The study also suggests that firms should involve customers in the NPD process, because customers can significantly contribute to NPD success. By analyzing the data from six interviews, and integrating this with information from the literature, the most important and effective factors that lead to success are found in New Zealand health supplement industry. These factors are financial success, market success and strategic advantage gains. Secondly, Cooper's (2001) seven-stage NPD process model (which contains discovery, idea screening, scoping, business analysis, development, market testing and validation, and launch) and Baxter's six-dimension NPD success evaluation framework (financial success, market success, technical success, speed to market, strategic advantage gains, and social and ecological sensitivity) were used and tested in this research, which is discussed based on the primary data. The results of the research suggested that there is only a slight difference in the initial stages of the NPD process in the New Zealand health supplement industry compared with Cooper's (2001) seven-stage NPD process, and that Baxter's (2007) six-dimension NPD success evaluation framework is supported in practice.

This research also presents a number of implications from both strategic and managerial perspectives. From the strategic perspective, the findings suggest that successful NPD is very important for business survival and development. Further to this, customer involvement is vital for NPD success. Financial success, market success and strategic advantages gains were found to be the most important factors for the evaluation of NPD success. This research suggests that managers need a clear understanding of the factors that drive NPD success and knowledge of how to involve customers in NPD, and how to assess the success of NPD in terms of its outcomes.

Chapter 1: Introduction

1.1 The aim of this study

The main aim of this research is to create an in-depth understanding of customer involvement in the processes of new product development (NPD), and at which stages are customers involved in NPD processes in the New Zealand health supplement industry. Based on several frameworks, especially Cooper's (2001) seven-stage NPD process and Baxter's (2007) six-dimension evaluation framework of NPD success, this study will explore the issues of key determinants of NPD success, customer involvement in NPD processes and key factors of NPD success evaluation in New Zealand health supplement industry.

1.2 Outline of chapter

This chapter describes the research background, research questions, and justification for the research, the limitations of this research, the research methodology, an outline of the dissertation and the important definitions for this research. Finally, a brief conclusion will be presented to conclude this chapter.

1.3 Background to the research

Developing and introducing a new product is one of the most important strategic decisions undertaken by modern corporations (Cooper, 2001). A successful new product can create considerable benefits for firms, as well as being an important weapon for firms to gain sustainable competitive advantages (Atuahene-Gima, 2003; Biemans, 2003). However, a successful NPD is not easy to achieve and a low proportion of new product development projects are successful (Marzler & Hinterhuber, 1998). Therefore, when developing a new product, an in-depth understanding of customers' requirements and expectations (Lagrosen, 2001), techniques and knowledge of new product development are required to achieve the business goals (Lagrosen, 2001; Shepherd & Ahmed, 2000). To achieve their business goals, managers should have the

ability to evaluate the success of their NPD (Baxter, 2007). Many researchers claim that marketing relationships, especially customer relationships have a significant impact on the process of NPD (Lagrosen, 2005). Thus, involving customers in the processes of NPD is very important, and it is an effective strategy that can significantly contribute to the business success (Lagrosen, 2001).

Customer involvement in NPD processes in the New Zealand health supplement industry

In the New Zealand health supplement industry, the market environment is very competitive. Firms not only compete with local competitors, but also face powerful competition from overseas, such as from Australia and UK (Anonymous, 2004). Therefore, in seeking an effective way to create a sustainable competitive advantage, many New Zealand health supplement suppliers adopt multiple business strategies. For example, Good Health Naturally New Zealand Ltd continues developing and introducing new products to keep the market fresh, as well as enhancing their current offerings (Good Health Naturally Ltd, 2009). Moreover, to enhance their competitive advantage and to achieve their business goals, firms are more likely to involve their customers in the process of NPD. Involving customers in NPD can help firms to understand their customers' expectations and enhance satisfactions (Varcoe, 2008). Therefore, this study will focus on the key issue of exploring customer involvement in NPD processes in the New Zealand health supplement industry.

To achieve the aims of this study, two established models are used and examined: Cooper's (2001) seven-stage NPD processes and Baxter's (2007) six-dimension evaluation framework. These two models will help this study to explore how customers are involved in the NPD process and to identify how firms evaluate their NPD success in the New Zealand health supplement industry. The two models will be presented in detail as follows:

Cooper's (2001) seven-stage NPD processes

Because of the high risks and high failure rates of new product innovation, many marketers claim that an effective and efficient new product generation process is vital to the future success of NPD of many organizations (Cooper, 2009). Cooper (2001) has presented a model with seven distinctive time-sequenced stages which generalises the NPD process found in many industries. It comprises the stages of discovery, exploration, scoping, building the business case, development, testing and launch (Cooper, 2008).

Baxter's (2007) six-dimension evaluation framework

Most firms do not focus on a single criterion of their business success when developing a new product. Thus, multiple factors need to be considered when firms evaluate their NPD success. For example, many firms evaluate their NPD outcomes in terms of market success, financial success and technical success (Baxter, 2007). The literature suggests that, because companies may have differing business goals for their NPD projects and each company may have multiple business goals, then different firms may evaluate their NPD success differently. An effective measurement of NPD success is very important for firms, so Baxter (2007) presents a framework which defines a six-dimension evaluation for a range of facets of NPD success. It suggests that companies should evaluate their success from the aspects of financial success, market success, technical success, speed to market, strategic advantage gains, and social and ecological sensitivity (Baxter, 2007). Thus, to create understandings of how firms evaluate their NPD success is one of the aims of this study.

1.4 Research questions

The main aim of this study is to explore customer involvement in the processes of NPD in New Zealand health supplement industry; also, this study aims to develop in-depth understanding of the key determinants of NPD success and factors of NPD success evaluation in the New Zealand health supplement industry. There are three research

questions which will be discussed and examined in regard to the main aim of this research:

1. What are the key determinants for NPD success in the New Zealand health supplement industry?
2. In which stages are customers involved in new product development processes in the New Zealand health supplement industry?
3. What factors do firms use to evaluate the success of NPD in the New Zealand health supplement industry?

1.5 Justification for the research

This dissertation research has both practical and scientific relevance. In the first place, there are limited theoretical empirical studies clearly indicating the interactions of customers in each stage of NPD processes, especially in the intermediate stages. Also, there is no current research regarding customer involvement in NPD specifically in the New Zealand health supplement industry. Although, this research is undertaken based on the established literature, such as Cooper's (2001) seven-stage NPD processes model and Baxter's (2007) six-dimension evaluation framework; the established studies about customer involvement in NPD process may not match the New Zealand business situation, and older studies may not always be appropriate for the current business situation. Therefore, this research is conducted regarding the customer involvement in NPD in the New Zealand health supplement industry, and prior literature which relates to this research is tested rigorously.

In other words, this research will explore the points that customers contribute to NPD success significantly, and that customers may be involved in the processes of NPD in differing degrees depending on context. The evaluation of NPD success will be explored. Therefore, the results of this research will present the New Zealand health product suppliers with an understanding of customer involvement in NPD success, and answers to the research questions will be helpful and useful for managers to increase

their knowledge of NPD success evaluation, NPD processes and customer involvement.

1.6 Methodology

In this research multiple case studies will be conducted as the basic research method. A case study is defined as an empirical inquiry that delivers both depth of understanding and extensive real examination of established theoretical propositions or of a current issue (Yin, 2003), so this method will provide the depth needed for this study. The case study is an effective method for exploring contemporary or historical issues (Yin, 2003). This study is an exploratory study which aims to investigate customer involvement in the NPD process. Use of case analysis is suitable for this research's exploratory examination of whether or not the established NPD stages model can be identified in the current NZ health supplement market, and to assess the elements of Baxter's proposed multi-dimension evaluation of NPD success framework in the New Zealand health supplement industry. The case study is an appropriate method to assess Cooper's seven-stage NPD process framework and identify in which stages customers are involved in new product development processes in the New Zealand health supplement industry. Multiple sources of data will be adopted, including the literature from the AUT online database, transcripts and voice record of interview, messages and information from companies' websites, as well as the companies' brochures (Yin, 2003).

As noted above, the purposive sampling method is used to investigate six companies in the New Zealand health supplement industry. Because different sizes of companies may involve their customers in the NPD process differently, three big companies are selected, which have more than 10 employees, produce many kinds of health products, and focus on a broad range of customers, both in New Zealand and overseas. Also, three small companies are selected which have less than 10 employees, produce limited kinds of products, and target a smaller group of customers. To gain access to

companies, the researcher searched health supplementary companies and information from the internet and their customers, such as clinic, hospital, health product shops and their final consumers, and then contacted the reception of each company to get more information. There is a limited number of people who could provide the information: only NPD managers or directors of NZ health supplement companies could provide useful information to this research. Thus, purposive sampling is the most appropriate option for ease of recruitment of respondents (Patton, 1990). The snowball sampling method is used to find out the most appropriate interviewee in each company. For example, the researcher contacted the manager firstly, and asked for the people who have responsibility for NPD. This sampling method helped to save time and to easily find appropriate interviewees who could provide the required information (Bryman & Bell, 2007). The sources of data include both the interviews and documentation from each chosen supplement company in New Zealand.

The study uses a standard set of questions as a guide for the interviews. The interview questions are clearly articulated and are easily understood. When performing the interview, the researcher did not stop the interviewees speaking and did not try to lead them.

The study uses the pattern matching technique to analyze the data from interviewees. Pattern matching compares the pattern in the case with the predicted pattern (Yin, 2003). Because this research is based on established theoretical models, the researcher analyzes the result by comparison with the concepts of existing models, thus, the pattern matching technique is suitable for this research.

1.7 Limitations

This research has some practical limitations. In the first place, only one interviewee will take part for each company, so the information is the opinion of only this one person, whose impressions may be biased. For the same reason, the information gathered from

each company may therefore also lack some detail. Secondly, this research focuses only on companies which are located in the Auckland region. Thus, the result may lack validity for all New Zealand companies. Moreover, the secondary data which was gathered from the companies' websites may be biased, because much information and communication on companies' websites are provided by themselves. Furthermore, much of the literature deals with issues and contexts that may not be relevant in detail to the New Zealand health supplement industry. Therefore, the validity of the literature for the New Zealand context is not certain. Overall, those limitations and potential risks of this research project may directly influence the validity of the data.

1.8 Outline of the dissertation

In this Master of Business dissertation, there are five main chapters:

Chapter 1; Introduction, this chapter describe the research background, research questions, justification, limitation, and the research methodology.

Chapter 2; Literature review, this chapter present the review of the literature on the main issues, that includes the importance of NPD, the determinants of NPD success, NPD process and customer involvement.

Chapter 3; Research methodology, this chapter describe the major research methodology.

Chapter 4; Findings, main finding of the research will be presented and cooper's (2001) seven-stage NPD process model and Baxter's (2007) six-dimension evaluation frame work of NPD success are tested.

Chapter 5; Discussion, based on Chapter 4 the main findings of the research are discussed regarding the research questions, both theoretical and managerial implications and the limitations are presented.

1.9 Definitions

A number of key terms are used in this study. The definitions of those key terms are presented with explanations as follows:

Customer Involvement

Customer involvement is a business strategy which is helpful for a business to understand customers' requirements, and is a major factor which significantly influences an NPD project success. Customer involvement can be defined as firms creating and gaining knowledge and understanding of customers through customer interactions such as interviews, surveys and development co-operation (Knudsen, 2007). Depending on the business objectives, customers may be involved in the product development process to varying degrees. For example, customers could be involved only in the initial stages of the NPD process, or could possibly be involved throughout the whole process (Lagrosen, 2005).

New Product Development

New product development (NPD) is the complete process of innovating new products or services and getting them to the market. The NPD process contains two paths: first one involves the idea generation, development and launch; the second one involves market research and analysis. NPD is seen as a strategic business decision which can create business opportunities and competitive advantage, such as maintaining market share and extending business (Ulrich & Eppinger 2004).

Relationship Marketing

Relationship marketing is a form of marketing which focuses more on customer retention and satisfaction than point of sale transactions. Relationship marketing is widely used for the business purposes of long-term value creation and customers' loyalty (Berry, 1983).

Through long-term and close interaction with customers, firms focus on value creation and enhancement. Stable relationships between buyer and seller can offer richer and more meaningful knowledge of customers and hence sustainable competitive advantages (Berry, 1983).

1.10 Conclusions

In summary, this chapter presented the foundations for this study. In order to survive and compete well in New Zealand health supplement industries, firms adopt many kinds of business strategy, including developing new products. However, there are still many NPD projects that fail because of managers' lack of in-depth knowledge of NPD including NPD success factors, NPD process and customer involvement. There is a limited range of theoretical literature which focuses on NPD in the New Zealand health supplement industry. Thus, the aim of this study is to conduct research that will increase in-depth understanding of the success factors of NPD and in which stages customers are involved in NPD process in the health supplement industry.

The chapter introduces two established theoretical models which will be tested. Also, three research questions have been presented which emphasize the NPD success evaluation and customer involvement. Justifications and limitation for this research are presented and the research methods are described and justified briefly. The outline of this research was presented and the definitions of the key terms used are presented with explanations.

Based on these foundations, the dissertation will present a detailed analysis and explanation of the research. In the next chapter, the relevant literature review will be presented in detail.

Chapter 2: Literature review

2.1 Chapter introduction

In this chapter, a review of the literature on the main issues of new product development and buyer—seller relationships will be presented. The relevant literature including the importance of NPD, the determinants of NPD success, NPD process, and customer involvement in the NPD process will be introduced and discussed. This will cover the introduction of Cooper's (2001) seven-stage process model and Baxter's (2007) six-dimension NPD success evaluation framework. At the end of this chapter, a brief conclusion is provided.

As the main aim of this study is to explore customer involvement in the NPD process in the New Zealand health supplement industry, it is important to understand the relevant issues of NPD, which include: the importance of NPD; NPD success determinants; and the NPD process. Those relevant issues of NPD will guide this study. Secondly, the issues of customer involvement are also vital for this study, such as the issues of relationship marketing, buyer—seller relationships, process of relationship development and customer perceived value. The consideration of those issues of customer involvement will help this study to create a clear understanding of how marketing relationships, especially with customers, flow in the process of NPD. Finally, to discover the knowledge of NPD success evaluation, a discussion of how companies evaluate NPD outcomes evaluation will be presented.

Therefore, there are three main sections in this chapter. Firstly, knowledge of NPD will be developed including discussions of NPD success determinants and the NPD process. Secondly, issues of the marketing relationship relevant to NPD will be discussed. Thirdly, a conceptual model of NPD success evaluation will be presented and discussed.

2.2 New Product Development

Initially, this literature review presents an analysis of NPD issues that includes the importance of NPD and the success of NPD. An understanding of those issues is needed for exploration of the research questions.

Nowadays, with the fast development and change within the world economy, the world market is becoming more competitive and complex. Especially in developed countries, such as in New Zealand, the business environment is trending to be more competitive and unpredictable. In such a competitive market, the capability to develop and introduce new products to the market is the key to success for industrial companies, and it is a really effective approach to create sustainable competitive advantages (Lagrosen, 2005). However, because many companies lack market knowledge in depth, or in some cases, managers do not have a good understanding of customers' needs and expectations through using incorrect practical tools and methods, with the result that the new products do not meet customers' expectations, thus, a low proportion of new product development projects are successful (Marzler & Hinterhuber, 1998). Therefore, when developing a new product, in-depth understanding of customers' requirements and expectations (Lagrosen, 2001), techniques and knowledge of new product development are required to achieve the business goals (Lagrosen, 2001; Shepherd & Ahmed, 2000).

To develop a successful new product, companies necessarily have to have clear understandings about the NPD process based on both external business environment and organizational conditions, such as the target market, competitive environment, organization goal and product characteristics (Cooper, 2001). Secondly, managers should have the ability to develop and manage a successful new product. It requires that managers should be knowledgeable to define the success factors of NPD. Such organizational factors include research, management techniques, management of NPD processes, and NPD performance (John, 2000). Also, the marketing relationship is

another vital factor which has an important impact on the success of NPD (Knudsen, 2007). Moreover, each successful marketer should have the ability to evaluate the success of NPD, such as Baxter's (2007) six-dimension NPD success evaluation framework including measurement of financial success, market success, technical success, speed to market and strategic advantage gains. This appears to be a useful framework and effective for business to more broadly assess the success of NPD.

Therefore, based on the study of previous literature about NPD and relationship marketing, the aim of this research is to create an understanding of customer involvement in the processes of NPD, and in which stages customers are involved in NPD processes in the New Zealand health supplement industry. The following section will present detailed explanations and discussion which focuses on the first essential research question: What factors do firms use to evaluate the success of NPD in the New Zealand health supplement industry?

Before exploring how firms evaluate their NPD success, the review discusses the importance of NPD and the determinants of NPD success.

2.2.1 Importance of NPD

Developing and introducing new products as one of the most important strategic decisions is widely adopted by many modern corporations (Cooper, 2001). Because the current marketing environment is trending to be more unpredictable and competitive, the introduction and promotion of new products to the marketplace is considered as lifeblood and an engine for companies' future development and success in the struggle in the marketplace. Moreover, NPD is considered as a powerful weapon for firms to create more opportunities and growth possibilities (Lagrosen, 2005), in order to expand their business to new markets. Thus, developing new products has a vital impact on successful development of a business (Atuahene-Gima, 2003; Biemans, 2003).

Matching customers' expectations

In the first place, customers' requirements and expectations are changing fast. Successful companies should have an ability to innovate and develop new products to satisfy their customers as many business failures are caused by failed new product innovation and development (Marzler et al. 2003). George Gruenwald (1995) has pointed out that many firms exist based on the capability to develop new products. Therefore, successful product development is essential for companies to survive for any length of time which could be due to the new product effectively satisfying market demands (Korth, 2005).

Differentiation

Secondly, a superior product could create unique benefits and competitive advantages for business and a differentiated product could offer a unique feature which is not available on competitors' product. The higher quality and unique features of new products could attract more customers' attention and loyalty, in turn, to create sustainable competitive advantages. Moreover, if the unique feature of the new product is not easily copied there is more possibility that success will be achieved by new product development (Cooper, 2005).

Benefit for business extension

In addition, developing new products is an effective strategy for business extension (Cooper, 1998). Entirely new product development is commonly used to discover new markets. Cooper (1990) has noted that a successful new product could deliver exceptional success rates, higher market share and profitability, as well as helping to match the business objectives much more than undifferentiated products. Furthermore, successful products could offer quality of execution of technological activities, technological synergy, marketing synergy and market attractiveness. Those benefits of quality product are more successful in matching the satisfaction of customers, and rated higher in terms of profitability and in matching the business financial objectives (Little, 2005). Moreover, successful products feature a strong fit between the market demands

and the company's resources and capability, and their attractions could create more market share, especially when targeted at more attractive markets (Cooper, 2005).

Therefore, effective NPD is considered as a cornerstone for future development, growth, profitability and survival (Lagrosen, 2005). However, successful new product development is not easy to achieve, and often the risk is high. Cooper (1990) mentioned that new product development project will always be a high-risk endeavour, failed innovation could lead to serious outcomes, even cause an entire business failure. Then, how to develop a successful new product and what are the factors that influence the success of NPD? As well as how to develop effective NPD processes? The following section presents a discussion of the literature reviews of successful NPD.

2.2.2 Success determinants of NPD

Based on the current review of literature on the importance of NPD, many research outcomes clearly show that a successful new product has a vital impact on the entire success of a business (Lynn, Abel, Valentine & Wright, 1999). A successful new product could offer almost all companies gains in increased sales, profits, and competitive advantages (Sivadas & Dwyer, 2000). On the other hand, due to the increased competitive pressures and managers who are lacking success knowledge, almost half of NPD projects fail each year (Zirger & Maidique, 1990). Thus, the way to develop a successful new product is the concern of and is discussed by many researchers.

When planning a NPD project, the managers should have in-depth understanding of the key determinants which could indicate its success or failure (Lester, 1998). Those determinants include both internal and external antecedents that could influence the business success significantly such as the organizations' research capability, management of NPD process, and NPD performance (John, 2000). However, for different companies the success determinants may be different (Cooper, 1998). Thus,

based on a review of the literature, the following analysis will present the most common determinants driving either success or failure in NPD projects.

Market

Firstly, many existing studies view that the market is one of the most important categories which significantly affect the success of NPD (Balachandra & Friar, 1997). Cooper (1980) has suggested that the strength of the market should be analyzed before introducing new products to the market. All aspects including market size, current and expected market share, and the forecasts of profitability should be considered carefully by each project manager. Some researchers also had the view that the market environment should be analyzed one step ahead (Mansfield & Wagner, 1975). The market analysis could provide managers with an advanced NPD plan (Balachandra & Friar, 1997). Also, customers' expectation is another important factor. Gaynor (1990) suggested that the good information on customer's needs and wants could deliver a good understanding of the market. In addition, the evaluation of market growth rate also has vital impact on future new product development (Merrifield, 1981). A growing market could provide a greater chance for NPD success. Moreover, the current and potential competition and "speed to market" are also attracting more researchers' attentions; authors expressed the view that the consideration of those two factors could create more advantages for managers, such as gain increased market share and insight of competitive environment (Maidique & Zirger, 1984).

Product

Secondly, the product itself is another vital category which should be considered carefully when introducing a new product (Balbontin, Yazdani, Cooper & Souder, 1999). To achieve the success in NPD, one of the top factors is to offer customers a differentiated product, which includes delivering unique benefits and superior value to customers. A quality and attractive new product could satisfy more advanced uses, and better match customer's expectations (Cooper & Kleinschmidt, 1990). Also, Balachandra (1989) suggested that a reasonable product strategy should be considered

an important success factor, such as introducing and pricing new products.

Technology

Thirdly, many research studies show that customers are more likely to be attracted by more innovative products rather than less innovative products (Balachandra & Friar, 1997). Also, a close fit between R&D skills and the project needs could contribute to NPD success significantly (Edgett, Forbes & Shipley, 1992). Thus, technology should be considered as an important factor. Moreover, new high-tech products could potentially create competitive advantages and opportunities for success (Balachandra & Friar, 1997). However, some people argue that high-technology products will lead to a high cost of production, and in certain industries technology should not be considered as strong factor indicating success (Cooper & Kleinschmidt, 1990).

Relationships

Moreover, the market relationship is considered an important success factor by many researchers and includes such elements as customer involvement and supplier involvement in NPD processes (Knudsen, 2007). Many researchers mentioned that effective integrations with suppliers into NPD will increase the possibility of success. It could reduce the cost and improve the quality of the products; also, effective interactions of suppliers could offer a fast development of new product and provide an improved access to, and application of, technology (Ragatz, Handfield & Scannell, 1997). Baxter and Matear (2004) also viewed that intangible value could be created by business to business or buyer—seller relationships. Furthermore, involving customers in NPD processes could effectively create understanding and information of customers' expectations and satisfaction (Lagrosen, 2005).

Organization

Finally, the organizational factors are commonly considered as important factors that directly affect the success and failure of NPD (Lester, 1998). Whatever the factors introduced above, if the company has insufficient capability to get the new product into

the market, then the project will fail (Balachandra & Friar, 1997). Therefore, many studies suggested those organizations' R&D skills, innovation capability, cooperative competency and the ability of strategic planning and performance should be considered as important determinants for NPD success (Sivadas & Dwyer, 2000).

This study is focuses on one of the above success drivers, which is customer involvement in the NPD process. For the purpose of exploring this issue of customer involvement at each stage of the NPD process in the New Zealand health supplement industry, this study will firstly look for a common established model of the NPD process by analysing the literature.

2.2.3 NPD process

Because of the high risk and high failure rates of new product innovation, many marketers claim that effective and efficient new product generation process is vital to the future success of NPD of many organizations (Cooper, 2009). Thus, well-managed companies are commonly using a scientifically established procedure to innovate and introduce new product or services to the market (Christ, 1998). Many independent studies show that a large number of successful U.S. organizations now use established conceptual and operational processes for NPD from idea generation to launch (Cooper, Edgett & Kleinschmidt, 2005). Effective NPD processes could offer a lower cost and higher quality product generation, and the most important is that it could increase the possibility of success. Cooper (2008) has presented a seven-stage NPD process model which is well known as the most common NPD process in many industries; it contains the stages of: discovery, idea screening, scoping, business analysis, development, market testing and validation, launch and commercialization which are discussed in the following sections:

Cooper's (2001) seven-stage of NPD processes model

Discovery

This stage is also named "Idea Generation" or "Fuzzy Front End" of the NPD process. Ideas for new product are often discovered from basic marketing research, such as SWOT analysis. Through taking the research in both internal conditions (including company's R&D department, employees, salespeople or corporate spies) and external situations (including market and consumer trends, competitors, target groups, trade shows or ethnographic discovery methods), the insight of customers' expectations and the concept for new products will easily be obtained (Cooper, 2008).

The idea-generation techniques including creative tools (such as brainstorming) or non-creative tools (such as surveys) could support the new-ideas-screening stage (Nijssen & Lieshout, 1995).

Idea screening

At this stage, product managers screen and evaluate the generated ideas critically (Cooper, 2008). The consideration is necessarily undertaken and is based on the perceived customers' benefits, growth trends of the target group, current and potential competitive pressure, market trends and the ability of market acceptance, technical requirements and the cost of the new product. And then the feasible and most attractive ideas are selected and more focused on (Kim & Wilemon, 2002).

Scoping

At this concept development and testing stage, marketers are focusing on the customers' sense and favourites, interests and attractiveness of new product, purchasing power of new product, demand forecast and price determination (Cooper, 2008). Generally, managers present the new idea in the form of a concept board and attempt to test it in the groups of customers, distributors and employees. For instance, new product features are shown in the form of advertisement. After the initial testing, the required information will be obtained from the feedback of customers (Christ, 1998), and

directions on improvements and market merits are determined (Cooper, 2008).

Business analysis

The main purpose of this stage is to conduct a detailed investigation leading to a business case; the main aim of the marketing research at this stage includes product and project definition, project justification, and project plan (Cooper, 2008). By researching and discussing both internal and external market conditions, the market demand, forecasts of production cost and profits, estimates of sales and price and the fit within the organization's mission will be determined (Christ, 1998).

Development

After investigating and analyzing the business, the accepted idea will be designed or physically prototyped at this stage. Also, construction of the marketing plan including go-to-market strategy is started. By introducing the new product and providing valuable information to customers, feedback will be gathered and analyzed. The last phase in this stage, the cost effective production, sales plan and updated financial analysis are completed (Cooper, 2008).

Market testing and validation

At this stage, the real product will be tested in the market, and commercial plant to verify and validate the manufacturing of the new product. By testing the new product in the market, the response of distributors and customers will be gathered and considered by marketers. If the new product testing matches the business objectives, then the purchase intent is established and the new product is ready to be commercialized (Cooper, 2008).

Launch and commercialization

After the successful operation of the last six stages, the new product is ready to be introduced to a wider market. At this stage the marketing plan, full production, promotion and advertisements are ready to be started (Cooper, 2008).

However, Cooper's (2001) seven-stage NPD process may not be suitable for all companies and may not be effective in all industries. For instance, depending on the size of the company and the market conditions, some companies may not necessarily follow those seven steps for NPD. Moreover, a correct NPD process does not guarantee entire NPD success (Mills, 2004).

Therefore, more studies are needed to explore how to improve NPD success. The following discussion will present the relationship factors which have significant impact on NPD success. Especially, customer involvement at each stage of the NPD process will be discussed in detail. The aim of the following discussion will be to explore how marketing relations affect NPD success and how are customers involved in the NPD process.

2.3 Relationships in NPD process

Lagrosen (2005) noted that relationships are very important to companies in achieving their NPD success, he also viewed that relationships, such as business-to-business and those of buyer and seller can significantly contribute to NPD, and those relationships should be involved in the process of NPD (Lagrosen, 2005). For the purpose of gaining more competitive advantages and to achieve better NPD performance, many types of relationships are involved in the process of NPD (Knudsen, 2007). From recent literature reviews, many studies have found that relationships have significant impacts on NPD processes and strategic performance (Dyer & Singh, 1998), because at different stages of NPD processes, various knowledge and information are required to be gathered through marketing relationships, such as information about customers' needs (Lagrosen, 2005). Thus, based on the organizational objectives and industrial situations, different types of relationship could participate and contribute to NPD throughout the whole process (Martin, 1998). However, some researchers suggest that unreasonable or ineffective involvement of customers or other actors in the NPD

process may lead to negative impacts on NPD (Knudsen, 2007).

From previous studies of literature, five most important relationships have been defined, including: customer involvement, supplier involvement, competitors' involvement, universities and private research institutes, and consultants (Knudsen, 2007). Those external relations' involvement in collaborative NPD may be of value and benefit to business success appears as different way (Howley, 2002).

Firstly, as much of the literature suggests, effective integration of customers into NPD could lead to the development of a superior new product (Bonner & Walker, 2004). Close interaction with customers can offer organizations an effective way to gain valuable information and knowledge of customers, such as their needs, wants and expectations (Griffin & Hauser, 1993). Knudsen (2007) indicated that involving customers could create highly successful new products if the product characteristics could match the satisfactions of most customers. He also found that the customer is the most frequently involved in NPD projects (Knudsen, 2007). However, incorrect customer involvement in NPD projects may lead to considerable negative impact. For example, too close or too frequent interaction of customers may negatively affect project performance (Tollin, 2002).

Secondly, involving suppliers in NPD projects may create a positive effect on innovative performance (Knudsen, 2007). Effectively involving suppliers in the NPD process could help to create a faster, better and cheaper new product (Ragatz, Handfield & Scannell, 1997), such good interaction could provide companies with lower cost of materials and fast development time (Eisenhardt & Tabrizi, 1994). Especially in the early stages of the NPD process, suppliers are more likely to be involved strategically by many industrial companies. And supplier involvement is seen as important part of business strategy in NPD (Ragatz et al., 1997). Thus, in such a competitive market environment, suppliers are increasingly involved as important resources in NPD projects (McGinnis & Vallopra, 1999).

Thirdly, effectively involving competitors could also contribute to NPD success (Knudsen, 2007). Knudsen found that competitors may offer relevant information and knowledge for NPD performance and can help to achieve easy access to knowledge and immediate success. Moreover, effective alliances with competitors such as technology alliance could offer company quick access to valuable resources (Sivadas & Dwyer, 2000) However, many researchers argued that competitor alliances may be dangerous, for example, through strategic alliance with competitors the business knowledge or even secret information may opportunistically be gained by competitors (Parkhe, 1993). Also, Gates (1993) pointed out the competitor alliance is not stable and fails easily, which may create a negative impact on business NPD project.

Finally, effective relationships with universities and private research institutes and consultants may have a positive impact on NPD performance. For example, a company associated with a particular type of partner could gain advanced knowledge flows (Knudsen, 2007).

Overall, in NPD projects, marketing relationships play a vital factor that positively or negatively affects the success of NPD to different degrees. For different types of relations in the NPD process, the buyer—seller relationship has been seen as the most important impact that more frequently affects NPD success (Knudsen, 2007). As a basis for investigation of the research questions, the following section will therefore present a discussion of the buyer—seller relationship in the NPD process. Because one aim of this study is to explore the issue of customer involvement in the NPD process, thus, the following section focuses on a specific type of relationship: buyer—seller.

2.3.1 Buyer—seller relationship

Nowadays, the focus to create long-term and stable buyer—seller relationships in the field of marketing is increasing, especially in business-to-business marketing, for many organizational purposes creating customers' commitment and loyalty, the buyer—seller

interaction is trending to be more close (Lichtenthal, Wilson & Long, 1997). Wilson (1995) viewed that the buyer—seller relationship has long been considered by many companies as an important business strategic operation. To meet the challenges of a rapidly changing competitive environment, many companies necessarily need support from stable buyer—seller relationships, such as high levels of trust and commitment between customers and suppliers (Doney & Cannon, 1997). A well-managed buyer—seller relationship can deliver long-term benefits to companies (Ganesan, 1994), as well; it could enhance and maintain business strategic performance, such as competitiveness and transaction costs (Noordewier, John & Nevin, 1990). Therefore, in the NPD process, knowledge and capabilities can be created and can flow through effective buyer—seller interactions in a collaborative relationship (Baxter, 2007). Then, the question is how to develop a stable and effective buyer—seller relationship? And how is value created by a buyer—seller relationship? The following discussion will analyze how to develop a successful buyer—seller relationship.

2.3.2 Process of relationship development

It is well known by most companies that the buyer—seller relationship is very important and useful for business gaining sustainable competitive advantage and opportunities. In customer satisfaction, it is supposed to be the most vital factor to create customers' loyalty (Ravald & Gronroos, 1996). However, for different companies the types of relationship with their customers may vary. Based on the size and objectives of business, they may operate relationships at varying levels of closeness (Donaldson and O'Toole, 2007). However, all those types of relationships are developed in a similar way through from initiation to integration (Ford, 1980). Similarly, other authors point out that different companies may develop their relationships with customers in varying degrees at different stages. Dwyer, Schurr and Oh (1987) have evolved a five-general-step process for relationship development:

Awareness

Firstly, awareness occurs in the early stages of relationship development process (Ford, 1980). In this phase, the interaction between buyers and sellers has not transpired. Suppliers and sellers normally learn about and attract each other. For example, suppliers use advertisements and brand images to attract their customers' attention (Dwyer et al., 1987).

Exploration

The second phase of relationship development is exploration, which refers to the research and trial purchase in the buyer—seller exchange. In this phase, suppliers try to find the highest potential buyers by using simple strategies, such as testing purchase and evaluation, as well, the initial interactions between buyer and sellers will take place (Dwyer et al., 1987). However, the exploration relationship is not stable and strong (Dwyer et al., 1987).

Expansion

Thirdly, after the initial relationship is built up, more communications and interactions will take place between buyers and sellers, increased benefits and value will be created and gained (Donaldson & O'Toole, 2007). Some people views this expansion phase as the most important part to develop successful buyer—seller relationships, especially for new product development. However, the risks will now increase (Dwyer et al., 1987).

Commitment

In this phase, suppliers will select the advanced buyers to achieve higher levels of customer satisfaction in the relational exchange (Dwyer et al., 1987). This commitment normally is created based on the criteria of inputs, durability and consistency (Scanzoni, 1979).

Dissolution

Finally, successful companies often cannot avoid the dissolution of buyer—seller relationships, because the possibility of dissatisfaction or disagreement is implicit throughout the whole process of relationship development. Through the interactive relationship development, once dissatisfaction occurs, the relationship may be in danger, and in turn, the risk of dissolution will increase (Dwyer et al., 1987).

It is clear that the buyer—seller relationship is very important when businesses are developing new products—a successful and well-managed customer relationship could create sustainable benefits for companies. However, to achieve a successful NPD, managers are also required to have knowledge of customer perceived value, as well as have the capability to involve their customers effectively and efficiently in the NPD process. The following section will present a discussion of customer-perceived value and customer involvement.

2.3.3 Customer perceived value and customer involvement

From the literature, many authors view customer satisfaction as the most important factor to significantly affect business success (Dorsch, Swanson & Kelley, 1998). If the provided product or services could meet or exceed current customers' needs and expectations, then customers' satisfaction might be achieved and the customer's loyalty could be easily gained (Ulaga & Eggert, 2006). Lagrosen (2005) has pointed out that success of new products could effectively and efficiently achieve customer satisfaction, and it has been considered as a cornerstone for business survival and future development. However, it is not easy to develop a new product which could satisfy a board range of groups of customers (Shepherd & Ahmed, 2000). Therefore, for the purpose of developing a successful new product the managers should have in-depth understanding of customer-perceived value. Moreover, knowledge of customer involvement in the NPD process is also necessary, and managers should have ability to effectively involve customers in NPD process. The discussion of customer

perceived-value is presented as follows:

Customer-perceived value

When performing any NPD project, managers should consider the customers' satisfaction first (Lagrosen, 2005). For example, whether the design, features, quality and purchase price of the new product could meet or go beyond customer's expectation. Ulaga and Eggert (2006) view is that if the new product performance could equal or exceed customers' expectations, then customer satisfaction could be met. Otherwise, the customers' feeling about the new product may result negatively as dissatisfaction. Therefore, customer-perceived value from the new product has significant impact on customer satisfaction (Mazumder, 1993).

In current studies, many authors found that customer-perceived value relates to customers' perception of benefits and sacrifice from the new product (Zeithaml, 1998). Customers normally assess the perceived value before they purchase the new product. Customer normally will assess the new product benefit (such as differentiation, superior quality, unique features, convenience or other attractiveness) against sacrifice (such as the purchasing cost and other non-monetary cost). The result of this evaluation of the new product will be perceived as the customer value, which will directly affect the customer's purchasing intentions (Mazumder, 1993).

Moreover, customers' perceived value will directly influence their feeling of satisfaction with a new product, and in turn, will affect the success of NPD (Matzler & Hinterhuber, 1998). Therefore, the delivery of a higher-value new product is vital for each NPD project. In addition, the literature suggests that the customer is very important for the NPD process and they should be involved in NPD process, to varying degrees. Because involving customers in the NPD process will allow firms to more effectively understand customer-perceived value, in turn, firms could efficiently satisfy their customers and provide value to them (Lagrosen, 2005). The following discussion will explore customer involvement in the NPD process.

Customer involvement in NPD process

Many research results show that the marketing relationship, especially the customer relationship, often has significant impacts on the process of NPD (Lagrosen, 2005). Based on the organizational situation and industrial environment, different companies may involve their customers in different phases of the NPD process to various degrees, because, in different NPD stages, various kinds of knowledge and information are required to be gathered from customers. For example, the information from consumers, such as expectations or satisfaction, is very important in many stages of NPD processes. In many cases, customers may actually do a lot of the developing work by themselves. Hence, many researchers point out that customer contributes to NPD process significantly, and customers should be involved in the processes of NPD in different degrees (Lagrosen, 2001).

For different types of NPD project, customer involvement may be helpful and useful for idea generation, product design and product pre-test of NPD (Lagrosen, 2001). In fact, in order to gain more customers' loyalty and marketing benefits, the customer can be involved through the relationship in every stage of NPD process (Knudsen, 2007). Research shows evidence that customer interaction is one of the most important factors that have positive influences on the success of NPD (Lagrosen, 2001).

Therefore, customers should be actively involved in the NPD process. Current results of the research found that the way in which customers are involved in NPD processes varies between organizations (Lagrosen, 2005). And many companies normally involved their customers only in limited stages of the NPD process, such as initial stages or final stages. Kaulio (1998) has proposed a 2-dimension framework to identify those different types of methods of customer involvement.

Firstly, the longitudinal dimension, which includes the interaction between customers and suppliers occurs in initial stages, such as ideas generation and product design phases of the NPD process (Kaulio, 1998). On the other hand there is the lateral

dimension, which captures a closer interaction between customers and suppliers in the NPD process (Kaulio, 1998). In this type of customer interaction in NPD process, companies could provide well-designed products based on the customers' expectations. Also, customers may be involved more deeply and take part in new product design process actively. Moreover, customers sometimes may design the product by themselves. Some researchers found that especially in some B-2-B interaction, customization is becoming more popular, and has been seen as an effective way to improve customers' satisfaction (Lagrosen, 2005).

Current literature suggests that customers can contribute to NPD processes significantly, and customers should be involved in the processes of NPD to different degrees, which include idea generation, product optimization, marketing mix optimization and launch are in need of customer supports (Lagrosen, 2001). However, research on this issue continues. On the other hand, customer involvement may not always positively affect the development of new product. This is because many customers can not articulate their expectations for new products (Bonner & Walker, 2004). Secondly, there are few studies clearly indicating the interactions of customers in all stages of NPD processes, especially in intermediate stages. Established theoretical models and prior studies may not effectively match current business situations, and may not transfer to other industries.

Furthermore, the product managers should have enough knowledge and ability to evaluate their NPD outcomes. The following discussion will discuss how firms evaluate the success of NPD.

2.4 Evaluating a successful new product

A successful product could create considerable benefits for both companies and customers (Lagrosen, 2005). And the well-designed product could deliver significant competitive advantages to the business, thus, well-designed product is seen as a very

important source which could contribute to business success effectively (Huang, Soutar & Brown, 2004). However, for the aim of achieving several business goals, managers should have the knowledge and ability to evaluate the success of NPD (Baxter, 2007). From the previous literature reviews, there are many different measurements of NPD success, including single measurement and multi-dimensional evaluation. The following discussion will present those different techniques of measurement for NPD success.

Single measures of NPD success

For different business objectives managers are using different techniques of measurement to evaluate the success of NPD (Choy, Yew & Lin, 2006). In the past, many studies indicate those single measure evaluations of success as sufficient (Baxter, 2007). For instance, Calantone, Chan and Cui (2006) evaluate their project outcomes by using a single measurement of profitability, and success or failure were defined variably on an 11-point scale. Or some of the marketers evaluated their success outcomes only compared with their main competitors, such as Narver, Slater and MacLachlan's (2004) 6-point scale measurement. Single measures of NPD success such as financial outcomes or profitability may be able to effectively judge their NPD success. However, for the purpose of evaluating the broader range of facets of NPD success, the single measurement may not always sufficient. Arguments are made that NPD success should be assessed based on a variety of aspects for both long-term and short-term benefits (Baxter, 2007). Thus, the argument about dimensions of NPD success has long been a concern in the literature.

Multi-dimensional evaluation of NPD success

To identify a broad range of facets for NPD success, Cooper and Kleinschmidt in their 1997 papers provided a 3-dimension evaluation of success outcomes which assessed their success from the aspects of financial performance, opportunity window and market impact (Cooper & Kleinschmidt, 1997). The multi-dimensional evaluation technique is very important and useful for business to identify and evaluate their NPD

success (Baxter, 2007). Other researchers also assert that success is a multi-dimensional construct (Griffin & Page, 1996). In some markets, such as in strong competitive markets, companies have to evaluate their success particularly carefully. Especially for the businesses that focus on long-term benefits, those measures with narrow scope and less market-oriented may not be effective and efficient (Baxter, 2007). Some multi-dimensional evaluation may be used effectively only for limited numbers of companies, or only for the companies in certain markets. Griffin and Page's (1996) 3-dimension evaluations were: customer-based success; financial success; and technical performance success. It is suggested more dimensions of success should be considered.

In a study of current literature, Baxter (2007) has presented a six-dimension evaluation framework for a broader range of facets of NPD success outcomes (shown in Figure 1). It suggests that companies should evaluate their success from the aspects of financial success, market success, technical success, speed to market, strategic advantage gains, and social and ecological sensitivity (Baxter, 2007). This evaluation framework covers a broader range of bases which appear to be useful and effective for a company to assess and identify the success of NPD. Compared to other success evaluation models, Baxter (2007) viewed that "strategic advantage gains" is necessary to be considered as a dimension of the success outcome, such as marketing synergy which was identified in some literature. Moreover, Baxter (2007) also identified that the dimension of "social and ecological sensitivity" should be attended to by companies.

However, in different business situations or in different market environments, those measures from prior studies may not always be appropriate and efficient. Because those measures have been researched only in specific marketplaces or industries, they may not apply in the New Zealand health supplement industry. Thus, the measures need to be tested rigorously. For future successful development of new products, more research is needed for the evaluation of those NPD success factors, and this study takes a first step in doing so by exploring NPD success outcome assessment in firms in the New

Zealand health supplement industry.

Baxter's six-dimension evaluation framework of NPD success

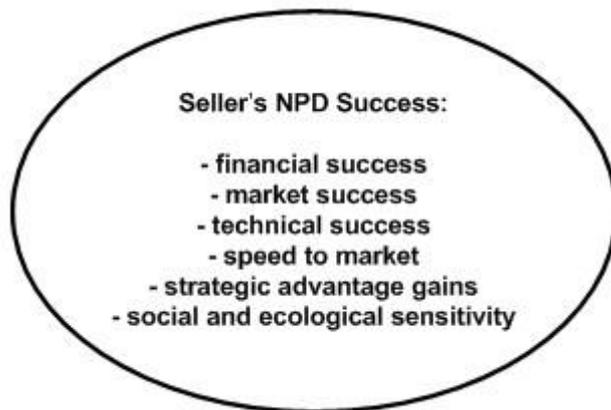


Figure 1: Seller's NPD Success—Adapted from Baxter (2007).

2.5 Research questions

The literature suggests that when planning a NPD project, managers should have in-depth understanding of the key determinants which could indicate the success or failure of NPD (Lester, 1998); hence, the key determinants of NPD success will be investigated in the New Zealand health supplement industry based on the established literature. Current literature suggests that the most common determinants driving success or failure in NPD projects are: market, product, technology, relationships, and organizational factors. Thus, the first research question of this study is:

1. What are the key determinants for NPD success in New Zealand health supplement industry?

For the purpose of exploring customer involvement in the stages of the NPD process in the New Zealand health supplement industry, this research will use an established model, Cooper's (2001) seven-stage NPD process model (including discovery, exploration, scoping, building the business case, development, testing and launch

stages), to identify different stages of NPD process in the New Zealand supplement companies, and hence to find at which stage of the NPD process customers are involved. Thus, the second research question of this study is:

2. In which stages are customers involved in New Product Development processes in the New Zealand health supplement industry?

Also, this study will test Baxter's (2007) conceptual model of NPD success as outcomes in the New Zealand health supplement industry, based on Baxter's (2007) model (including financial success, market success, technical success, speed to market, strategic advantage gains and social and ecological sensitivity) this study will try to find out how firms evaluate their success of NPD and what are the key factors firms use to assess their NPD outcomes. The third research question of this study is:

3. What factors do firms use to evaluate the success of NPD in the New Zealand health supplement industry?

2.6 Conclusion

In conclusion, this chapter discusses the issues of NPD and marketing relationships in NPD processes. Because the current market environment is trending to become more competitive and unpredictable, it is difficult for companies to create sustainable competitive advantages (Lagrosen, 2005). Developing new products is seen as one of the most effective ways to achieve business goals—many researchers found that successful new products could more effectively satisfy the customer's fast-changing requirements (Lagrosen, 2001). However, due to a lack of business knowledge and techniques, a larger number of new product development projects fail. Therefore, the main aim of this study is to create in-depth understanding of key success factors of NPD and how customers are involved in the NPD process.

This chapter presented the review of existing literature which refers to the issue of NPD. It contains the importance of NPD, the techniques to evaluate NPD success, the key success factors of NPD and the most common process of NPD. Firstly, this study discussed why NPD is vital for business success, such as how the successful new products could effectively match customers' expectations, create differentiations and benefit the business extension (Atuahene-Gima, 2003; Biemans, 2003). Secondly, the research question of how to measure the success of NPD was discussed. The chapter presented a discussion of both of single-measurement and multi-dimensional evaluation of NPD success; it found that multi-dimensional evaluation technique is more effective to assess a broader range of business success, Baxter's (2007) six-dimension evaluation framework is a comprehensive and up-to-date model for NPD success assessment, and this conceptual model will be tested as the basic pattern in this research. Moreover, this chapter also discussed the key factors that may influence NPD success, including market factors, product factors, technology factors, relationships factors and organizational factors. An in-depth understanding of NPD success factors may help businesses to avoid many risks of failure (Cooper, 2001). Furthermore, in order to explore customer involvement in the NPD process, the most common NPD process model was analyzed and discussed. Cooper's (2008) seven-stage model was found as the well-known and widely-used NPD process in many industries. This model will be used for comparison with New Zealand NPD process in the health supplement industry.

For the purpose exploring customer involvement in the NPD process, this study has provided a detailed analysis of relationship marketing in the NPD process. Firstly, this chapter discussed how important marketing relationships are in NPD success. For example, many types of relationship may significantly affect the NPD, such as supplier, competitors and customers (Knudsen, 2007). Secondly, because this chapter focused on customer involvement and the buyer—seller relationship is very important for this research to reflect the issue of customer involvement. Thus, the buyer—seller relationship has been discussed in detail, in turn, to develop understanding of customer

involvement in the NPD process. Thirdly, the effective process of relationship development was derived from the current literature: awareness, exploration, expansion, commitment and dissolution (Dwyer et al., 1987). The process is important to help to develop understanding of how do relationships build up in the business exchange, and how do customers flows in the relationship; hence, it is important to help to develop knowledge about customer involvement in business relationships. Moreover, the knowledge of customer-perceived value was found to be very important, and can help companies to more easily understand their customers' expectations (Dorsch, Swanson & Kelley, 1998). Finally, the customer is found to be an important factor in NPD process and the customer should effectively be involved in NPD process (Lagrosen, 2001).

To meet the research aims which are mentioned above, the next chapter will present the discussion of the research methodology of this study. It will include sections on justification of methodology, unit of analysis, data collection, interviews and research limitations.

Chapter 3: Research methodology

3.1 Introduction

In this section, the major research methodology will be presented. Firstly, this section provides the justification for the chosen research method in terms of the research issue and the literature review, as well as it provides the unit of analysis and sources of data. Secondly, it covers the instruments or procedures for data collection and the guidelines for interviews. Thirdly, the validity and reliability of this research issue will be addressed. Finally, the ethical considerations and limitations of this research will be provided.

3.2 Justification of methodology

As the purpose of this study is to create increased in-depth understanding of the success factors for NPD and in which stages customers are involved in NPD processes in the New Zealand health supplement industry, in this research multiple case studies will be employed as the basic research method. A case study can be defined as an empirical inquiry that can deliver both depth of understanding and extensive real examination of established theoretical propositions or of a current issue (Yin, 1994). Case analysis is suitable for this research to examine whether or not the established NPD stages model applies in the current NZ business market, and specifically to examine whether Baxter's conceptual model can be used by companies to evaluate their NPD success in the New Zealand health supplement industry (Yin, 1990). Moreover, use of the case study is an appropriate research strategy that investigates contemporary issues which relate to the real-life context, such as by using Cooper's seven-stage NPD process framework to identify in which stages customers are involved in new product development processes in the New Zealand health supplement industry (Yin, 1990).

3.3 Unit of analysis

The unit of analysis is based on the group which is combined with six companies in the local health supplement industry. Generally, when defining the unit of analysis (or the case), this should relate to the definition of initial research questions (Yin, 2003). As the purpose of this research is to create an understanding of customer involvement in the processes of NPD, and in which stages are customers involved in NPD processes in New Zealand health supplement industry, and according to Babbie's definition of unit analysis, it should be defined as the major entity which is being discussed or analyzed in the study (Babbie, 2009). Therefore, the unit of analysis of this research is multiple case studies, and the unit of this research should be defined as the operations or strategies of companies in the New Zealand health supplement industry (Yin, 2003).

3.4 Data sources

In this research project, multiple types of sources of secondary data and a single type of primary source of data are employed. The data are collected for this research from secondary sources such as library and the online database of AUT, transcripts of voice recordings of interview, business magazine and business newspaper, and business documents (Yin, 2003). The primary data are gathered from the transcripts of a set of interviews, and the established theoretical data are gathered from the online database of AUT.

3.4.1 Secondary data

The secondary data used for this research includes data collection from sources including library and the online database of AUT and business messages. In the chapter on data analysis, the secondary data are used to help to analyse the primary data, as well as to help to generate the findings.

3.4.2 Primary Data

In this research project, the primary data will be collected as interviews of product development managers or general managers of six different selected companies in the New Zealand health supplement industry. The data will be presented in this research by way of a set of tables and some direct quotations of the interview transcripts.

3.5 Secondary data sources

The secondary data of this research project are mainly collected from the online databases of AUT such as the databases of ProQuest Central, Business Source Complete (EBSCO). Many secondary data are also gathered from the Google Scholar and Business News.

3.6 Procedure for collecting primary data

For the aim of this research, the primary data are collected from the results of multiple interviews which were conducted by interviewing the product development managers or general managers of six different companies in health supplement industry. Before collecting the primary data, the participant information sheet and consent form were provided for interviewees. This was to ensure that they had clear understanding of the purposes of this research. In addition, an indicative interview guide was provided before the interview started, as it could help interviewees to know more about this process. When collecting primary data, the researcher first asked general questions and the research questions based on the indicative interview guide, and let the interviewees answer each question freely without any interruption. The researcher did not lead each interviewee. Only some prompts were used for encouraging the interviewee to talk more about the research issues. The interviews were recorded on a tape-recorder.

3.7 Interview guide

In this research project, an indicative question guide for interviews is included which

contains two main parts: general questions and research questions. There are five questions covered in the general questions part which relate to the business background and current business situation. The research questions part included seven questions which relate to the main aim of this research, the important and useful information will be conducted and collected from this part, such as the success factors of NPD, NPD process, business success evaluation and customer involvement in NPD process. The detailed interview guide is presented in Appendix 4.

3.8 Data analysis

When analyzing the interview data, pattern-matching methodology was adopted as the primary technique. Pattern-matching research methodology is a common research technique for qualitative data analysis; the data from the six interviews was analyzed by the researcher using the pattern-matching technique and comparing the primary data with the established theoretical outcomes or predicted patterns (Yin, 2003). As the researcher analyzed the data, the information which comes from the transcripts was discussed in relation to the established literature. The main points which were gathered from the interviews were collected in a table and compared with the patterns from the literature. Each theme was drawn as a row in a table which could help to illustrate the main points more clearly and logically; as well as to present information in an understandable manner to the readers.

All the study's research questions are based on the established theoretical outcomes. The first research question of key determinants of NPD success will therefore be discussed based on both literature and primary data. To answer the second research question about customer involvement in NPD process in the New Zealand health supplements industry, the established theoretical outcomes from the literature as noted in Chapter 2 were used as the patterns, for example, Lagrosen's (2005) research outcomes were compared to the patterns in the interviews. The customer involvement in NPD process was analyzed in the transcripts from the six interviews, and the results

were coded to each stage of NPD processes in Cooper's (2001) theoretical model. The third research question of NPD success evaluation was analyzed mainly based on the Baxter's model and the primary data, by comparing the patterns of Baxter's model with the data from interviews. Therefore, for the data analysis, the pattern-matching technique is used as the main method. The research questions were answered based mainly on both primary data and established literature.

3.9 Validity and reliability

To design good qualitative research, validity and reliability are two important factors that influence the research design significantly. The validity and reliability will affect the findings of the research directly (Golafshani, 2003). Therefore, for the purpose of conducting research findings which have highest degree of trustworthiness and reliability, the quality of this research should be evaluated. Bryman and Bell (2007) have presented four essential criteria of evaluation for measuring the quality of a qualitative research: credibility, transferability, dependability and confirmability. The quality of this research is evaluated by those four criteria.

In the first place, credibility is one of the most important criteria for judging the quality of the research. Assessment of the degree of credibility of research includes judging both of the credibility of the interpretation of findings from researcher and the acceptability of the findings for society (Bryman & Bell, 2007). For the purpose of this study, this research is conducted based on the multiple case studies of six real companies in the New Zealand health supplement industry. Moreover, from the perspective of acceptability of findings of this research, both academic and managerial implications will be provided from this study.

Bryman and Bell (2007) point out two criteria to measure the credibility of qualitative research, which are: respondent validation and triangulation. Firstly, respondent validation is very important and useful for each researcher to measure the primary

findings of the qualitative market research. Through conducting the interpretation of events by effectively interacting with respondents, a higher degree of credibility of the research findings will be ensured (Bryman & Bell, 2007). As part of credibility process, the outcome of this study will be available as a brief report for each interviewee. Triangulation is another useful technique for evaluating the quality of qualitative research. It refers to the fact that the quality of market research is improved by using multiple sources of data (Bryman & Bell, 2007). Therefore, the data for this research were gathered from multiple sources, such as interviews, journal articles, and companies' websites.

Secondly, transferability of qualitative research concerns the possibility or degree to which the findings could be replicated or transferred to other contexts or settings (Bryman & Bell, 2007). Because both primary and secondary data were collected from January to June in the year 2009, and the findings were generated in July 2009, the findings of this research are not, so far, replicated. However, the theoretical results of this study may possibly be replicated in other contexts.

Moreover, the idea of dependability is focusing on the trustworthiness of the research (Bryman & Bell, 2007). For the purpose of ensuring the dependability of this research the primary data was collected by tape recorder and the transcript of interviews are stored. The primary findings are illustrated by citing direct quotations from the transcript of primary data.

In qualitative research the findings are likely to be generated differently by different researchers. Each person may generate a unique perspective for the same study (Golafshani, 2003). In partial mitigation of this effect the resources of both primary and secondary data are presented.

3.10 Limitations

There are some practical limitations to this research. In the first place, there was only one interviewee who took part for each company, and so the information gathered from each company may lack some detail. Secondly, this research activity only focuses on companies which are located in Auckland region, thus, the result may lack validity for all New Zealand companies. Moreover, the secondary data which was gathered from the companies' website may be biased, because much information and communication on companies' websites are provided by themselves. Furthermore, much of the literature deals with issues and contexts that may not be relevant in detail to the New Zealand health supplement industry. Therefore, the validity of the literature for the broader New Zealand context is not certain. Overall, those limitations and potential risks of this research project may directly influence the validity of the findings.

3.11 Conclusion

In this chapter, each component of a research methodology is noted. To compare the success factors of NPD and customer involvement in NPD process based on the established model, such as Cooper's (2001) seven-stage NPD process and Baxter's (2007) six-dimension NPD success evaluation framework, this research applied the multiple case study research method. The primary data was gathered from results of six interviews which were conducted by interacting with the product development managers and general managers in health supplement companies. This study used multiple sources to collect secondary data, such as journal articles and business news. The technique of data analysis was discussed as well; the pattern-matching technique is applied in this research for the data analysis. Moreover, the validity and reliability of this research was discussed. Finally, the limitations of this study was presented, including the primary data which may lack detail and may be affected by personal bias, the limitation of the region for collecting primary data, and the risks contained in secondary data.

In the following chapter, the main findings of this research are presented; it contains the summary of the cases studies and the answers to research questions of this study.

Chapter 4: Findings

4.1 Introduction of the chapter

Through gathering and analyzing the data of both primary and secondary sources, the main findings will be generated and presented in this chapter. In this study, the secondary data were mainly gathered from the published messages, such as brochures and websites.

In this chapter, the study of multiple cases will be introduced briefly first. It presents a short summary of the cases in the New Zealand health supplement industry. The important aspects which relate to the research aims will be used as the themes for the data analysis. To analyse the primary data, the pattern-matching technique will be adopted as the major method. Based on the primary data gathered from New Zealand health supplement industry, Cooper's (2001) seven-stage NPD processes model and Baxter's (2007) six-dimension evaluation framework of NPD success will be tested. Each pattern of those established theoretical models will be discussed and analyzed based on the primary data. Referring to the research questions, the analysis of each research question is presented as a sub-heading. Finally, the conclusion is presented at the end of the chapter.

4.2 Introduction to the cases

The New Zealand health supplement industry has provided high quality and potent health products for many years, and New Zealand has a high reputation with its health supplement products which are well known all over the world (Healthyonline, 2009). In recent years, increased numbers of people have been concerned about the concept of health, and people, including New Zealand people, suffered from many infectious diseases such as bird flu and H5N1. People generally were more likely to seek prevention of health problems, such as bone joint problems and heart disease. Hence, for the purpose of meeting customers' fast changing expectations many New Zealand

health supplements suppliers were continuing to develop new health products which focused on different kinds of health problems (Healthyonline, 2009b). On the other hand, developing and introducing new products to the market could not only help firms to keep up “fresh blood”, but also could effectively assist firms to create huge benefits, such as competitive advantages and profits. Because, currently, the business environment in New Zealand is competitive and complex, especially during the present recession, the New Zealand business situation is becoming more unpredictable. Thus, NPD was seen as an effective weapon for firms to achieve business success. Before answering the research questions, the importance of NPD will be discussed in this chapter to create understandable visions for the aims of this study.

In this study, there are six New Zealand companies involved. The primary data are mainly gathered from the interviews with those six companies. Based on the research methodology described in Chapter One, there are three large and three small companies which took part in this research. Those six selected companies are all in the Auckland region. More details of each company are clearly shown below in Table 1; it contains the company size, products, the interviewee, and websites:

Table 1: The details of companies in this research

Details	Size	Products	Interviewee	Website
Company A	Large (More than 10 employees)	Health supplements	General Manager	www.nhlab.co.nz
Company B	Small (Less than 10 employees)	Health supplements	General Manager	www.nzhealth.com
Company C	Small (Less than 10 employees)	Health and fitness products & Health seminars	Sales and Services Manager	www.hqh.com
Company D	Large (More than 10 employees)	Health supplements	CEO	www.goodhealth.co.nz
Company E	Small (Less than 10 employees)	Colostrums products	Director	www.colostrumhealth.co.nz
Company F	Large (More than 10 employees)	Health supplements	Natural Health Advisor	www.redseal.co.nz

The main aim of this study is to explore customer involvement in the processes of NPD in the New Zealand health supplement industry and there are three research questions will be analyzed and answered in this chapter, based on both of the literature and the primary data:

1. What are the key determinants of NPD success in the New Zealand health supplement industry?

Firstly, current literature noted that many NPD projects failed due to increased competitive pressures and managers who were lacking in success knowledge (Zirger & Maidique, 1990). Hence, when planning a NPD project, the manager should have in-depth understanding of the key determinants which could indicate the success or failure of NPD (Lester, 1998). Also, for different companies the success determinants

may be different (Cooper, 1998). Hence, the first aim of this study is to identify the key determinants of NPD success in New Zealand health supplement industry. The analysis of research question one will be answered based on the most common determinants of NPD success from established literatures, which are: market, product, technology, relationships, and internal organizational factors.

2. In which stages are customers involved in New Product Development processes in the New Zealand health supplement industry?

Secondly, for the purpose of developing a successful new product which could give the highest levels of customer satisfaction, many firms in the New Zealand health industry are likely to involve their customers in the process of NPD. One such is Company D which is one of the largest health supplements providers in New Zealand (Good Health, 2008). However, there are also some firms which do not involve their customers in the NPD process for some reason. Some small size companies like Company E, felt it is difficult to involve their customers in NPD process [Company E].

3. What factors do firms use to evaluate the success of NPD in the New Zealand health supplement industry?

Another issue which relates to NPD will be discussed and explored in this research. Because companies aim to achieve different business goals when developing new products, they evaluate their NPD success from different perspectives and because different firms may have different business objectives, they may use different measurements for assessing their NPD outcomes. For example, some companies measure the NPD success by using the factors such as financial and market share, but another company uses financial and technique factors in their evaluation for NPD outcomes. Therefore, the key factors which are used by firms to evaluate their NPD outcomes will be a focus of this research.

In the following sections, the main findings of this research will be presented based on the literature review and interviews in the New Zealand health supplement industry.

4.3 Analysis of research question one

Firstly, the issues of NPD will be discussed and analyzed in this section. The new product development is the basic issue of this study. All the research questions and key issues of this research are related to the issue of NPD. As the main aim of this study is to explore customer involvement in NPD process in New Zealand health supplement industry, it is important and necessary to have understanding and knowledge of the importance of NPD. The knowledge of the antecedent issues about NPD could help this study to present a clear discussion for the research issues, as well as to present readers with a logical analysis.

Based on the discussion of the issues of NPD from current literature in Chapter 2 and the introduction of the cases in New Zealand in the last section, NPD can be seen as one of the most effective business strategies that could help business to create benefits such as competitive advantages and profits. Some researchers note that NPD can be seen as a powerful “weapon” for business survival and development (Lagrosen, 2005). Therefore, the issues of the importance of NPD and key determinants of NPD success will be analyzed firstly in the following sections.

4.3.1 The importance of NPD

Before analyzing the research questions, the issue of the importance of NPD will be discussed. Developing and introducing new products to the marketplace is one of the most effective strategic business decisions which are widely undertaken by many companies (Cooper, 2001). From the review of current literature in Chapter Two, it was found that in developed countries, such as in New Zealand, the business environment is trending to being more competitive and unpredictable, thus, some researchers assert that developing or introducing new products to the marketplace is the key to success for

industrial companies, and it is a really effective approach to create sustainable competitive advantage (Lagrosen, 2005). Therefore, a successful NPD is considered to be life blood and an engine for companies' survival and future development. Therefore, NPD is a vital business strategy for companies (Lagrosen, 2005).

For the purpose of this research to explore customer involvement in NPD process, it is important and necessary to develop in-depth knowledge about NPD, which could help to discover the answers for the research questions. In this section, the issue of the importance of NPD to New Zealand health supplement industry will be analyzed based on the established literature and six interviews. In this section, based on the primary data and established literature, the answers of interview protocol questions of "Why do you decided to develop new products?" and "Do you think the new products could create benefits to your business?" will be analyzed. The main answers gathered from each interview are clearly shown in Table 2. Then the following sections discuss in more detail the three themes that come out of the interviews, which are: matching customers' expectations; differentiation; and benefit of business extension.

Table 2: Matrix of identified themes for the importance of NPD

Themes	Matching customers' expectations	Differentiation	Business extension benefits
Company A	The knowledge of customers' demand is important	Developing distinct new products	Focus on big categories of natural health
Company B	Their new products could match large number of customer's expectations	Developing more sophisticated products that are hard to copy	Extending business by focusing on specific ailments
Company C	They are focusing on the market wants when developing new products	Not Mentioned	Not Mentioned
Company D	Half of their NPD projects are based on the customer's requests	Developing complex health products which not easy to copy	Aids entry into the world market
Company E	Not Mentioned	They are developing higher standard NZ natural health products than competitors	Filling gaps in the category
Company F	They are providing natural quality products for keeping market fresh	Developing new range of natural unique products	Developing new markets

Matching customers' expectations:

From the literature review in Chapter Two, the understanding of customers' expectations and satisfactions are very important for companies' development; successful companies should have the ability and knowledge to innovate new product to satisfy their customers (Marzler et al. 2003). This is similar to the New Zealand health supplement industry. For the purpose of matching the different and customers' fast-changing needs, many companies provided a broad range of health products, and they are still continuing to develop new products to satisfy their customers (NZ Health Naturally, 2009). Moreover, it is clearly shown in the columns of matching customers'

expectation in Table 2, from the interviews which were taken in New Zealand health supplement industry it is found that most companies feel that new products could effectively satisfy their customer's expectations. For example, in the interview when researcher asking the question "*Why do you decide to develop new products?*", one health supplier said "*we have to...we have to innovate, because old products get tired and drop off, old product...grown slow down and we have to introduce new products to keep the fast changing customer's needs*" [Company D].

Differentiation:

The differentiation of new products could create unique benefits and competitive advantages for business. The higher quality new products could not only attract more customers, but also the unique features of new products are not easily copied by competitors (Cooper, 2005). For example, Manuka Honey is one of the most famous health products in New Zealand; it has highest reputation because the bees source this prized honey from the highly scented native Manuka tree, making Manuka honey exclusive to New Zealand (Leonard-Stainton, 2009). Moreover, in this research it is found that from the columns of differentiation in Table 2, differentiation is one of the most important factors for developing new products for many companies. Some people also note that they are more likely to develop complex products which differ from others and are difficult to be copied [Company D].

Benefits for business extension:

Developing new products is seen as an effective and efficient strategy for creating exceptional success rates, higher market share and profitability (Cooper, 1990). In addition, technological synergy, marketing synergy and more market attention could be delivered from successful new products (Little, 2005). Many companies in New Zealand are extending their business or increasing their market share by developing new products (Dikeos, 2008). When a manager answered the question "*Do you think the new products could create benefits to your business?*", he said that "*[by developing new product], we can get big share than we haven't touch, the big market you can get*

big share, you can go increase the sales quite a bit we target on” (Company A). Moreover, from columns of benefits for business extension in Table 2, it clearly shows that most companies in New Zealand health supplement industry viewed that new product could help them to gain a bigger market share, in turn to effectively extend their business and create great profits.

Overall, referring to the interview protocol questions “Why do you decide to develop new products?” and “Do you think the new products could create benefits to your business?”, it is clearly shown that from the columns of matching customers’ expectations in Table 2 that most companies in the New Zealand health supplement industry believed that NPD could help to match customers’ expectations, and that differentiations could be created by developing new product. Moreover, companies believed that NPD is important for their business development and extension, such as touching the world market and fitting gaps of the market category.

The following section will analyze the key determinants of NPD success in the New Zealand health supplement industry.

4.3.2 Key determinants of NPD success

From review current literature in Chapter Two, many authors claimed that when planning the NPD project, it is necessary to understand the key factors which could indicate the success or failure of NPD (Lester, 1998). In this section, based on the primary data and established literatures, the first research question, “What are the key determinants of NPD success in New Zealand health supplement industry?”, will be analyzed. The primary data gathered from each interview is clearly shown in the rows of companies in Table 3, which is based on the main answer of the interview protocol question “What are the key factors that influence your new product development?” The following discussion will note the most common success determinants from the literature which are market, product, technology, relationships and organizations, and show how these determinants appear in the study’s interviews.

Table 3: Matrix of identified themes for the key determinants of NPD success

Companies		Company A	Company B	Company C	Company D	Company E	Company F
Themes							
Market	Market research is important	Market research is important, seeking for the mark and gap	They do a little market research, e.g. contact customers by e-mail, telephone	Not clearly mentioned	Market growth is important, as well as market requests	Feedback from customers is important	
Product	Form of new product is important	Cost effectiveness of product is important	They provide quality products and services	Complex of product is the key to success	Natural health products have more attractions	Unique features of product is important	
Technology	Not clearly mentioned	Not clearly mentioned	Not clearly mentioned	Technique department is important	Not clearly mentioned	Technology is important	
Relationship	Relationship with retailers	Relationship with retailers, customer feedback	Relationship with customers	Customers relationship are important	Relationship is important	Customer relationship is important	
Organization	Number of capital share is important	Not clearly mentioned	Not clearly mentioned	Not clearly mentioned	Funds is important for NPD	Not clearly mentioned	

Market

Some researchers suggest that it is important and necessary to analyze the market before undertaking NPD projects, all aspects including market size, current and expected market share, and the forecasts of profitability need to be considered (Cooper, 1980). In Table 3, it is found that for most of the chosen New Zealand companies, the market is an important factor for their NPD project. One company said that “*the bone joint, which is a big category, and fish oils is a big category, so we are focusing on the products that on very large [market].*” (Company A). Also, one company said “*Market research is important, another is taking a guess. Ah...and really the main point we do get from feedback from customers, really see the specific of market, the mark or gap*” (Company B). Therefore, it is clear to see that market is one of the most important determinants for NPD success in the New Zealand health supplement industry.

Product

From the literature in Chapter Two, it was found that the character of product is another vital category which should be performed carefully when introducing it to the market (Balbontin et al. 1999). Most companies see product characteristics as one of the key factors that could influence the NPD success significantly, such as the differentiation, high quality, and unique features of the products (Cooper & Kleinschmidt, 1990). For the purpose of meeting customers’ higher satisfaction levels, many New Zealand health product suppliers are developing and offering higher quality products to their customers (Good Health, 2008a). Also, one company claimed that “*The more complex...it is the better we like it, because more complex product is hard to do...the hard to do means hard to copy*” (Company D). Therefore, the results of this research clearly showed in Table 3 that the product character was found to be an important determinant for NPD success.

Technology

From previous research studies mentioned in Chapter Two, technology was seen as an important factor that could affect NPD success (Balachandra & Friar, 1997). For the

purpose of developing higher quality and unique products, some companies put forward the view that (as shown in Table 3), new technology could assist them to develop higher quality products and unique products, and the complex new products which are not easily to be followed by competitors (Companies D & F). However, in the New Zealand health supplement industry, only some companies see technology as the key determinant for NPD success (as shown in Table 3).

Relationships

Market relationships are considered as important success determinants by many researchers as noted in Chapter Two (Knudsen, 2007). In this research, Table 3 clearly showed that most companies said that market relationships are very important in NPD projects. Firstly, some New Zealand health product suppliers have built very good relationships with the retail shops. For example, one respondent expressed the view “*We get more information from our retailers, because we do educate each of them, and they do educate customers for selling products*”; he also said “*we do a lot of education of them, and get feedback about what is important*” (Company A). Secondly, for the purpose of developing a successful new product, many companies involved their customers in the process of NPD in various degrees. For example, some companies note that a lot of important information is gathered from their customers, such as by checking the feedback (Company F). Some companies even expressed the idea that “*[customers] can give an idea, so over half of our products that customers actually design it*” (Company D). Therefore, marketing relationships, especially customer relationships comprise one of the most important determinants that affect NPD success significantly. However, in this research the results found that some companies do not involve customers directly or involve customers only in a limited way for some reason; the detail will be discussed in the next section: 4.4 customer involvement.

Internal organizational factors

In the literature review in Chapter Two, internal organizational factors are also commonly considered as important determinants that could directly affect the success

of NPD (Lester, 1998). In this study, some companies, especially small companies, found that organizational factors within the new product developer are important for NPD project. For instance, because of lack of funds some small companies felt it is difficult to develop new products [Company E].

4.3.3 Conclusion of the section

Overall, it is clear from Table 2, most companies in the New Zealand health supplement industry believe that NPD is very important for business success and future development, such as satisfying customers' needs, creating unique product features and developing new market (as shown in Table 2). Compared with the literature, this research found that the key elements include matching customers' expectations, differentiations, and benefits for business extensions are all shown as importance in the New Zealand health supplement industry. Moreover, as seen from each row of the company in Table 3, most companies viewed that the key determinants include market, product and relationships for NPD success. Compared with the established literature, the determinants of technology and organizations are less important for NPD success in the New Zealand health supplement industry. Therefore, regarding the first research question "What are the key determinants of NPD success in New Zealand health supplement industry?" the results of this research shows that the key determinants include market, product and relationships.

In the following section, the second research question, "In which stages are customers involved in NPD processes in the New Zealand health supplement industry?" will be discussed and analyzed based on the literature and primary data.

4.4 Involvement of customers

From the review of literature in Chapter Two and from this study's interviews, it is clear that marketing relationships are vital for NPD success. Many studies showed that customer relationships often play key roles that influence NPD success directly or indirectly (Dorsch et al., 1998). Firstly, strong and stable relationships with customers

could effectively help business to achieve their customers' satisfaction levels (Ulaga & Eggert, 2006). Also, understanding of customers' needs and wants could be created through close customer relationships. Therefore, companies should involve their customers in NPD projects to differing degrees (Lagrosen, 2005). However, some studies noted that customer involvement may not always positively affect the NPD; for example, some researchers suggested that many customers cannot articulate their expectations for the new products (Bonner & Walker, 2004).

In this section, based on the established literature in Chapter Two, each case will be analyzed according to answers of interview protocol questions which were gathered from interviews. The interview protocol questions for this issue are:

1. What is your new product development process?
2. How important do you think the customer is when developing new products? Why?
3. Are customers involved in the process of your new product development? If not, why not?
4. In which stages are customers involved in your new product development process?
5. Why do you involve customers in new product development process? And how?

The main answers of those interview protocol questions gathered from each interview are shown in Table 4. Based on the literature and the useful data which was gathered through interviews by asking those five interview protocol questions, the first research question, "In which stages are customers involved in NPD processes in the New Zealand health supplement industry", will be discussed and analyzed, as well as "the methods of customer involvement" and "the reasons of not involving customers" in this section.

4.4.1 Case analysis for customer involvement

From the literature in Chapter Two, some authors noted that customers have significant impacts on the process of NPD (Lagrosen, 2005). Also, many researchers pointed out customers could contribute to NPD process considerably, and customers should be involved in the processes of NPD in different degrees (Lagrosen, 2001). Kaulio (1998) pointed out that customers should be effectively involved in the initial stages of NPD processes, such as idea generation and product-design phases. Some people suggested customers should be involved at both initial stages and final stages in the NPD process (Lagrosen, 2005). However, some researchers claimed that customer involvement may not always have a positive impact on the NPD. They suggested that customers may have a lack of knowledge and/or ability to provide useful information to the NPD (Bonner & Walker, 2004).

In this section, based on the literature in Chapter Two and the primary data gathered from the interviews, each company interview will be analyzed in reference to the research questions of “In which stages are customers involved in NPD processes in the New Zealand health supplement industry?”. The main answers regarding the interview protocol questions 3 and 5 are shown in Table 4, and the answers regarding to the interview protocol questions 1, 2 and 4 are shown in Table 5: The detailed discussion follows Table 5.

Table 4: Involvement of Customers in New Zealand Health Supplement Industry

Companies	Customer involvement in NPD process
Company A	They normally involve their retailers, and they felt it is difficult to interact with their end consumers directly.
Company B	Likely to involve customers in NPD, especially in initial stage of NPD process.
Company C	Involve customers to a limited extent; interact with customers by telephone and e-mail.
Company D	Involve customer almost throughout the whole process of NPD.
Company E	Felt difficult to involve customer, only involve customers in specific market place.
Company F	Involve customers differently vary between their products.

Table 5: Customer involvement in NPD process

Company	Company A	Company B	Company C	Company D	Company E	Company F
Stages of NPD						
Discovery	Involving retailers	Involving customers more	Limited customer involvement	Involving customer closely	Less interaction with customers	Involving customers
Exploration	None	Not Clear	None	Involving customers	None	Not clear
Scoping	None	Not Clear	None	Involving customers	None	Not clear
Building the business case	None	Involving customers	None	Not clear	None	Involving customers
Development	None	Involving customers less	None	Some cases involving customers	None	Involving customers
Testing	Not Clear	Not Clear	None	Involving customers	None	Involving customers
Launch	None	Feedback	Limited customer involvement	Feedback	None	Feedback

Company A

Tables 4 and 5 show that companies are involving their customers in different degrees varying between the companies. Company A was found to involve customers least. In answering question 4, “*Are customers involved in the process of your new product development? If not, why not?*”, Company A said customers are very important, and they need the knowledge of their customers, such as customers’ expectations (Company A). However, they develop their products without direct interaction with their customers. They felt that direct end-customer feedback is less important than other ways to understand their customers, such as research or specific market research rather than customer involvement [Company A].

Compared with the literature in Chapter Two, Bonner and Walker (2004) have similar views that customers may have a lack of knowledge and/or ability to provide useful information for the NPD. Secondly, they found it is difficult for them to involve customers, because of the nature of their products. For example, they said “*If you got joint problem, it will take a year before you start fixing [problems] or 6 month before [you] felling the benefits you can, it is too long time to run a study from customers, so we found it is difficult to involve customers*” (Company A). However, they involve their retailers very closely, they do a lot of education with their retailers, and retailers do educate customers. They get good information about customers from their retailers (shown in Tables 4 & 5).

Company B

In contrast, it was clear to see in Tables 4 and 5 that Company B is more likely to involve customers in NPD project. They felt customers’ feedback is very important for their NPD. Firstly, they did a lot of customer survey on their website, which could help them effectively to gather information from their customers. Secondly, in the initial stages of NPD processes, such as in idea-generation stage, they normally do market research with their customers to create new ideas. They said “*All of the first thing is we look for [customers’] perceived needs, we doing some market research with customers*

in the market in general” (Company B). Moreover, in the stage of development in their NPD process, they viewed that customers are also important. As well, customers could help them to evaluate the results of NPD projects. Therefore, they think customers should be involved in the NPD process, especially in the initial stages (shown in Tables 4 & 5).

Company C

Similarly, Company C also felt that customers are very important for business. They said “*Customer is important for business, customer is the lifeblood of the business*” (Company C). However, they involve their customers in a limited way. They are providing a broad range of health and fitness products and services for both New Zealand and Australia (Highest Quality Health, 2006), and it is hard for them to interact with their customers face to face. Therefore, they normally contact their customers or try to understand their customers by telephone and e-mail. They said “[*Our*] *market research is just listening to the customers*” (Company C). Compared with other companies, they involve their customers in a very simple way. They said “*We hear what they [customers] want, and we try to give it to them*” (Company C). Therefore, compared with the literature, they involve their customers in limited ways at the initial and final stages of the NPD process, such as idea generation (Kaulio, 1998) (shown in Tables 4 & 5).

Company D

Company D is the company in this research with most involvement of customers in their NPD process; they involve their customers very closely almost throughout the whole process of NPD (shown in Tables 4 & 5). Firstly, they generate ideas for new product quite heavily based on their customers’ requests. They said “*So half of our NPD request it is [from the] customer, the customers driving it for a lot, sure*” (Company D). Secondly, it is aligned with the literature in Chapter Two that they research for the new category and market gap by closely interacting with their customers. It is a very effective and efficient way which will help them to gather business information and

create business opportunities more easily for NPD projects (Lagrosen, 2005). They said “...and they look at the category and look for gaps in the category, ok, so [the idea of new product] half from the category management...half from customers’ requests” [Company D].

Thirdly, in the process of NPD, in line with established literature, they also involve their customers in their new product’s pre-design and testing. They normally make a sample for customers that focus on the customers’ sensory perception and favorites, interests and attractiveness of the new products (Cooper, 2008). Also, before they start to develop the new products, they will analyze their NPD project, and in this stage of the NPD process customers are interacted with for their project justification and project plan (Cooper, 2008). For example, they said “*Sometimes we get ideas from one country and sent around to other countries see who else are interested*” [Company D].

Moreover, when they are developing new products they sometimes design the new products with their customers, they said “*We make it with our label, but we made for them, so over half of our products that customers actually design it*” (Company D). They also involved their customers in the testing stage of NPD process (shown in Tables 4 & 5). From the current literature, many researchers found that in the test stage suppliers are more likely to involve their customers (Lagrosen, 2005). Before launching the new products, they will send the sample to their customers and ask customers to taste the new products. Therefore, in this research, it is clear to see that from Tables 4 and 5 that for some companies, especially large companies are more likely to involve their customers in the NPD process.

Company E

Company E which involved their customers only in some cases or in specific market place (see in Tables 4 & 5). They normally develop their new product by using a laboratory; they believed that laboratory could provide them with the best new products. Also, in the process of NPD the laboratory almost does everything for them, such as

developing, testing and launching the new product. Secondly, because they focused on both local market and overseas markets, they felt it is hard to interact closely with their customers. Moreover, because they are not a large company, most of the salespeople are working individually, or they are family based, therefore, it is not very easy for them to involve customers in the NPD project.

However, they tried to contact their local customers by telephone and e-mail, and also they check the customers' feedback. In some specific market, they tried to involve their customers in, such as in Indonesia. For example, regarding the interview protocol question: "*Do you involve customers in the process of NPD?*", they said "*We got one distributor which do...which a little bit involve...he is in Indonesia, and he does ask them what would you like to have on the market...*" (Company E). Therefore, for this case, they involve customers in a limited way and this depends on the market.

Company F

Compared with those cases above, Company F involves their customers in different ways in their NPD projects. Firstly, this is because they were developing a broad range of new products, and they involve their customers in NPD projects these vary between the products. However, similar to other companies, they said that customers' feedback is very important for their NPD projects. Secondly, in some cases, they involved customers in NPD process to a very high degree, for example, they said "*Things from needs, pricing, all of those sorts of things that got to be...packaging...all of those things got to be...looked into before we...before we launch the new products*" (Company F). In other words, they involved their customers in almost the whole process of NPD. Moreover, in some cases like the products which involve new different concepts, the customer is less effectively involved in NPD projects (see in Tables 4 & 5).

Overall, based on the answers of interview protocol questions and by analyzing the cases in New Zealand health supplement industry regarding to the research question of "In which stages are customers involved in NPD processes in the New Zealand health

supplement industry”, the results showed that most companies are likely to involve customers in the process of NPD, and for different companies, customers are involved differently. Similarly in line with the literature, customers are more likely and more frequently involved at the initial stages and final stages of the NPD process (Lagrosen, 2005). However, some companies expressed that customer involvement is difficult for some reasons. Moreover, some people in this research claimed that customers may have a lack of ability to provide useful information to NPD (shown in Tables 4 & 5).

The next section will present the analysis of customer involvement in NPD process in detail.

4.4.2 Summary of customer involvement findings

For the purpose of this study to explore customer involvement in the process of NPD in the New Zealand health supplement industry, Cooper’s (2001) seven-stage NPD process will be used as the basic framework for the issue of NPD process (shown in Table 5). In the first place, different companies may develop new products by using different processes (Cooper, 2008). In this study, the results of the research found that companies in the New Zealand health supplement industry develop new products using different processes. However, from this research, it is found that the most commonly used stages in the NPD process are idea generation, business analysis, developing and testing and launch (shown in Table 5). Therefore, compared with Cooper’s seven-stage NPD process, there is only slightly difference in the initial stages.

Secondly, based on the literature, because of the different organizational situations and the type of products, different companies may involve their customers in different phases of NPD process to varying degrees (Lagrosen, 2001). Comparing with the prior studies discussed in Chapter Two, this research has found similar results. For example, in this research, some companies involve customers only in initial stages and testing stages of NPD process; in contrast, some companies involve their customers almost

throughout the whole process of NPD. However, those differences of customer involvement vary between the products (Lagrosen, 2001). For instance, Company F has mentioned that for different NPD projects, customers are involved differently [Company F].

From this research, the results clearly show that customers are more frequently and commonly involved in the stages of idea generation, development and testing. This result showed a similar situation with previously discussed literature. Lagrosen (2005) has mentioned that many companies normally involved their customers only in limited stages of NPD process, such as in initial or final stages. Also, this research found that different sizes of companies involving their customers differently. Tables 4 and 5 clearly show that large companies are more likely to involve customers in the NPD process. Moreover, small companies only involve their customers in the initial and final stages. In contrast, big companies are more likely to involve customers almost throughout the whole process of NPD.

Therefore, in reference to the second research question that “In which stages are customers involved in NPD processes in the New Zealand health supplement industry?” it is clearly discussed above that customers are more likely be involved at the initial stages and final stages of NPD processes. However, different companies involved their customers differently, and some companies involve customers in NPD process very in limited ways. From this research, there are some additional findings which are relevant to the second research question. The next two sections will present the case analysis of reasons for not involving customers and of methods for involving customers.

4.4.3 Reasons for not involving customers from cases

As noted in Chapter Two, some researchers have point that there are many disadvantages to involve customers in NPD process. Bonner and Walker (2004) have pointed out that many customers can not articulate their expectations for new products.

Lagrosen (2005) also claimed that customers often can not suggest a valuable idea for new product development. As well as, some reasons for not involving customers in NPD were explored in this research. Firstly, some company viewed that “*Sometimes customers don’t know what they want*” (Company D). Secondly, some people felt that compared with professional marketers and researchers, customers lack competence to suggest valuable ideas (Company A). Finally, in this research, some companies, especially small companies which felt it was difficult to involve their customers closely in the NPD process, Company E is a good example of this [Company E].

4.4.4 Methods for involving customers

Through taking this research, the most common tools were used for involving customers are market research and prototype testing. Those two methods are effectively used for both large and small companies. In the first place, market research, such as e-mail surveys, interviews, telephone interaction or feedback, is commonly used in the New Zealand health supplement industry for involving customers. Secondly, prototype testing is another effective method which is widely used in the NPD project for involving customers. Moreover, some big companies such as Company D sometimes design their new products with customers, or even, some new products were designed by customers. Lagrosen (2005) also pointed out design by or design with customers is an efficient way to involve customers in NPD projects, as well as through a close interaction and co-operation with customers could help companies to achieve customers’ satisfaction more easily.

4.4.5 Conclusion of the section

In conclusion, this section presented the analysis of the issues of customer involvement in NPD process in the New Zealand health supplement industry. It covers the sub-issues of case analysis, customer involvement in NPD process, reasons for not involving customers and methods of involving customers. Firstly, compared with the established literatures, this research found that customers are likely to be involved in the process of

NPD (Lagrosen, 2005). Most companies in New Zealand health supplement industry viewed customers are very important for their NPD projects, as well as customers who could significantly contribute to their NPD (Lagrosen, 2001). Secondly, for different cases, customers were involved at different stages with various degrees; this varies between the companies in terms of such things as the sizes of the company, and the types of new product (Lagrosen, 2005). Moreover, through the research in New Zealand health supplement industry, this study found that customers were more commonly and frequently involved in the initial and final stages of the NPD process (Lagrosen, 2005), but this varies according to the size of the company. For example, most of the big companies would like to involve customers in the NPD process more than small companies.

However, this research also found that some companies felt it is difficult to involve their customers, and some people claimed that customers could not effectively suggest valuable ideas for NPD projects (Bonner & Walker, 2004). Furthermore, in this research, the most common tools were used for involving customers are market research and prototype testing (Lagrosen 2005). Those two methods for customer involvement were seen as the most effective and easy approaches to involve customers in NPD projects.

The following discussion will present the analysis of NPD success evaluation in the New Zealand health supplement industry. And in the following discussion, Baxter's (2007) six-dimension evaluation framework will be used as the basic pattern for analysis.

4.5 Evaluation of NPD success

Many researchers in the current literature claimed that for the aim of achieving different business goals, firms should have the knowledge and ability to evaluate their success of NPD (Baxter, 2007). Also, for different business and business objectives, firms may

evaluate their NPD outcomes by using different dimensions or measures (Baxter, 2007). Baxter (2007) has presented a six-dimension NPD outcomes evaluation framework. It includes: financial success, market success, technical success, speed to market, strategic advantage gains, and social and ecological sensitivity. For the purpose of exploring how firms evaluate their NPD outcomes in the New Zealand health supplement industry, this research is based on Baxter's framework. Hence, Baxter's framework is tested in the health supplement industry. The analysis and discussion of the issue of NPD outcomes evaluation are presented in this section.

For the purpose of developing understanding of what factors firms use to evaluate the success of NPD in the New Zealand health supplement industry, in this section, based on the primary data and established literature, and according to the answers from the interview question: "What are the key factors you use to evaluate your NPD success?", the second research issue will be discussed and analyzed. The main answers gathered from each interview are shown in Table 6:

Table 6: Key factors of NPD success evaluation

Companies		Company A	Company B	Company C	Company D	Company E	Company F
Factors							
Financial success	Sales	Sales & Profits Repurchase	Profits	Profits	Profits	Sales	Sales
Market success	Market share, test and touch the new market	None	Important	Important	Global acceptance. Develop new market	None	Distribution
Technical success	None	None	Important	Important	Differentiations Packaging, design	None	None
Speed to market	None	None	Important	Important	None	None	None
Strategic advantage gains	NPD strategy	Prices	Important	Important	Selling proposition. Strategic	None	Competitive advantages
Social and ecological sensitivity	None	None	Important	Important	Global acceptance, Brand promise Consumers' value	None	None

4.5.1 Financial success

According to the literature review from Chapter Two financial performance is one of the most common factors, which is used by many companies for their NPD outcomes evaluation (Kandemir, Calantone & Garcia, 2006). Baxter (2007) also expressed the view that the financial outcomes play an important factor that does really matter in evaluating NPD success, especially in the long term. Comparing with the established literature, firstly, this research found that all the companies in New Zealand health supplement industry see financial performance as one of the key factors for judging their NPD outcomes, such as sales and profits. For example, one company said “...so the product do not sell successful, if we can not making money, then our developing is not successful” [Company B].

Some people also suggested that all the success factors of NPD outcomes are related to financial success directly or indirectly (Company A). Other people held similar opinions that financial success is the most important factor for determining the NPD outcomes (Anonymous, 2009). Therefore, as is clearly shown in the rows of companies in Table 6, financial success should be seen as one of the most important factors for companies assessing their NPD outcomes in the New Zealand health supplement industry.

4.5.2 Market success

Market success is also suggested as an important measurement by many researchers in the established studies for NPD outcomes evaluation, such as increase market share, creating market opportunities and exploring new market (Griffin & Page, 1996). Baxter (2007) claimed that for the NPD success evaluation, other than financial success, a broader range of success facets should be considered. He also pointed out that market success is an important factor and should be considered for judging NPD success (Baxter, 2007). In the outcomes of research, it is found that market success is commonly considered by companies as a key factor for NPD success assessment in the

local health supplement industry. Some companies viewed that “...*this is the way to test the size of the market*” (Company A). They suggested that they are developing and introducing new products which aim to gain more market share and explore new markets. For example, one company in this research said “*if one country wants it [new product], it is ok, but we are more interested in other countries want it*” (Company D). In this case they were focusing on creating market acceptance and touching new markets by developing new products. Therefore, in this research, market success was found to be another important factor for companies evaluating their NPD outcomes. In addition, this research found that market success as the NPD evaluation factor is more likely to be used by big companies (Companies A, D & F) as shown in Table 6 rather than small companies [Companies B, C & E].

4.5.3 Technical success and speed to market

Many researchers found that technical success and speed to market also should be considered by firms for NPD outcomes evaluations (Baxter, 2007). Griffin and Page (1996) presented a 3-dimension framework for assessing NPD outcomes which includes technique success. They also viewed that technical success and speed to market should be considered as the important factors for NPD outcomes evaluations. However, in this research, there were few companies using technical success and speed to market as important factors for evaluating their NPD outcomes. Some people also pointed out that speed to market sometimes was not a particularly strong factor to indicate the NPD success (Griffin & Page, 1996). Similarly in this research, only one large company used technical factors as their important measurements for NPD outcomes (as shown in Table 6).

4.5.4 Strategic advantage gains

Compared with technical success, companies in the New Zealand health supplement industry are more likely use strategic success to assess their NPD outcomes. It is clearly shown in the rows of companies in Table 6 that almost all companies were using

strategic success to evaluate their NPD success. From the established literature, many researchers noted strategic advantage gains sometimes being as an important measure or dimension for judging NPD outcomes (Baxter, 2007). Also, in this research one company stated *“So we have got the things we go through our new product development strategy for deciding what products to do”* (Company A). Moreover, some people said *“Will be consideration, we have done some products with very low profit for strategic reasons, maybe we want to develop country or we made small amount...and looking for big amount later...”* (Company D). Therefore, this research found that strategic advantages gains is an important measure for judging NPD outcomes in New Zealand health supplement industry, and this result is matching Baxter’s (2007) NPD success evaluation framework (as shown in Table 6).

4.5.5 Social and ecological sensitivity

In Baxter’s (2007) NPD success evaluation framework, he proposed that social and ecological sensitivity was an important factor which is necessarily considered for analyzing NPD outcomes. Baxter’s proposal was supported by many in the literature. Moreover, Baxter’s proposal is also supported in this research, some company viewed *“Probably another one [factor] will be the value of the customer”* (Company D). They suggested factors which could influence business future development must be considered for evaluating NPD outcomes. And for the purpose of achieving future business goals, they viewed that social and ecological sensitivity is an important factor for assessing NPD outcomes, such as global acceptance, customer-perceived value and brand promise (Company D). However, there are few companies using social and ecological sensitivity as the key dimension for their NPD outcome evaluation in New Zealand health supplement industry. Therefore, research result does not strongly match the pattern of social and ecological sensitivity in Baxter’s framework (shown in each row of companies in Table 6).

4.5.6 Conclusion of the section

In conclusion, this section, 4.6, presented the analysis of how firms evaluate their NPD success in the New Zealand health supplement industry which was based on the literature of Baxter's (2007) six-dimension evaluation framework. By assessing Baxter's (2007) framework against the interviews, the results of the third research question were found in this section. Firstly, it is clear to see in each row of companies in Table 6 that most companies in the health supplement industry were using multi-dimensional evaluation for assessing their NPD outcomes. Only one small firm in this research was using a single measure for their NPD success evaluation. Secondly, based on Baxter's (2007) framework, financial success, market success and strategic advantages gains were found to be the most important factors which were commonly applied by firms to evaluate NPD outcomes in this industry.

Moreover, by testing Baxter's framework in this industry, it was found that dimensions such as technical success, speed to market and social and ecological sensitivity were less used by firms for NPD measurement rather than other factors. Especially, those factors were viewed as less important by small firms. However, for some large companies, those factors like technical success and social and ecological sensitivity were seen as important dimensions for their NPD evaluations. Furthermore, interestingly, some companies expressed the view that all the NPD success factors are related to financial success. Finally, in this research, the results showed that Baxter's (2007) six-dimension NPD success evaluation framework was mainly supported in practice, especially by large firms. However, it was only partly supported by small sized firms.

Based on the analysis of the data, the next chapter will present a discussion and conclusion for this study in detail.

Chapter 5: Discussion

5.1 Introduction to this chapter

In this chapter, the research aims and the research questions will be reviewed firstly. Secondly, based on Chapter 4, the main findings of this research will be discussed regarding the research questions the established models which were used or tested in this research will be presented. Thirdly, both theoretical and managerial implications will be presented. Finally, the limitations and future research in reference to this study will be discussed at the end of this chapter.

5.2 Statement of research aim and research questions

The main aim of this study is to explore customer involvement in the processes of NPD in New Zealand health supplement industry and to create an in-depth understanding of what the key determinants of NPD success are and how do firms evaluate their NPD success as outcomes. In this study, the research was largely based on the established literature including Cooper's (2001) seven-stage NPD process model and Baxter's (2007) six-dimension evaluation framework of NPD success.

There are three research questions which were discussed and examined in this study regarding the main aim of this research:

1. What are the key determinants of NPD success in New Zealand health supplement industry?
2. In which stages are customers involved in New Product Development processes in the New Zealand health supplement industry?
3. What factors do firms use to evaluate the success of NPD in the New Zealand health supplement industry?

5.3 Conclusions regarding research questions

In this research, after analysis both of primary data and secondary data based on the previous established literature, clear conclusions in regard to the research issues and research questions were drawn. In the first place, most companies in New Zealand health supplement industry viewed that NPD is a very important and effective strategy for business success and future development. Key elements from the literature including matching customers' expectations, differentiations, and benefits for business extensions are all fitting on New Zealand health supplement industry. Also, regarding the first research question of the key determinants of NPD success in New Zealand health supplement industry, the results of this research show that most companies in New Zealand health supplement industry noted that the key determinants including market, product and relationships are vital for NPD success rather than those of technology and organizations.

Compared with the literature covered in Chapter Two, this research found that the key determinants including matching customer's expectations, differentiations, and benefits for business extensions all fit in New Zealand health supplement industry; the determinants of technology and organizations for NPD success in New Zealand are viewed as less important by companies than the information in the literature.

Secondly, regarding the research question about exploring customer involvement in the NPD process in the New Zealand health supplement industry, the results suggested that the customer was seen as vital for NPD success for most companies, and customers could significantly contribute to the NPD projects. Also, most companies were likely to involve their customers in their NPD process, however, for different cases, customers were involved in different stages in differing degrees; this varies between the companies in such ways as the sizes of company, and the types of new product. Moreover, customers were found more commonly and frequently involved in initial and final stages of NPD process, but this is vary between the size of company. For

example, most of the big companies would like to involve customers in the NPD process more formally than the smaller companies. However, some companies claimed that customers could not effectively suggest to them valuable ideas for NPD projects, and some companies felt their customers were difficult to be involved in NPD process.

Thirdly, regarding the second research question of developing understanding of the factors firms use to evaluate the success of NPD in the New Zealand health supplement industry, by testing Baxter's (2007) framework the results suggested that most companies were using multi-dimensional evaluation for assessing their NPD outcomes. Only one small firm in this research was using a single measure for their NPD success evaluation. Secondly, based on Baxter's (2007) framework, financial success, market success and strategic advantages gains were found to be the most important factors which were commonly applied by firms to evaluate NPD outcomes rather than the factors of technical success, speed to market and social and ecological sensitivity. Moreover, different sizes of companies use different dimensions to evaluate their NPD success. Furthermore, interestingly, some companies noted that all the NPD success factors are related to financial success. Finally, in this research, the results showed that Baxter's (2007) six-dimension NPD success evaluation framework was supported in practice by large firms and partly supported by small size firms.

5.4 Discussion of established models

Based on this research which was undertaken in the New Zealand health supplement industry and which integrated the data sources from established literature, two established models from current literature were used and tested in this study. The discussion of those two established models is presented as follows:

Cooper's (2001) seven-stage of NPD process model

For the purpose of this study to explore customer involvement in the process of NPD in New Zealand health supplement industry, Cooper's (2001) seven-stage NPD process will be used as the basic framework for the issue of NPD process. In this study, the results of the research found that companies in the New Zealand health supplement industry develop new products using different processes which vary between companies, but it did not seem to have relationships with the size of the companies. However, from this research, it is found that the most commonly used stages in NPD processes are idea generation, business analysis, developing and testing, and launch. Therefore, compared with Cooper's seven-stage NPD process, there is only slightly difference in the initial stages.

Based on the literature covered in Chapter Two and analysis in Chapter Four, different companies may involve their customers in different phases of the NPD process in various degrees (Lagrosen, 2001). Compared with the prior studies in Chapter 2, this research has found similar results. For example, in this research, some companies involve customers only in initial stages and testing stages of NPD process; in contrast, some companies involve their customers almost throughout the whole process of NPD. However, those differences of customer involvement vary between the product types (Lagrosen, 2001). For instance, Company F has specifically mentioned that for different NPD projects, customers are involved differently [Company F].

Moreover, different sizes of the companies they may be different customer involvement. In this research, the results show that, in Table 5, customers are more likely to be involved to a high degree by large companies than by small companies. For example, small companies only involve their customers in the initial and final stages and do so to a limited extent. In contrast, big companies are more likely to involve customers throughout the process of NPD (shown in Table 5).

Baxter's (2007) six-dimension evaluation framework of NPD success

As the aim of this study is to develop in-depth understanding of how firms evaluate their NPD success as outcomes in New Zealand health supplement industry, Baxter's (2007) six-dimension evaluation framework of NPD success was tested. The literature in Chapter 2 claimed that for the aim of achieving different business goals, firms should have the knowledge and/or ability to evaluate their success of NPD (Baxter, 2007). Baxter (2007) suggests that companies should evaluate their success from the aspects of financial success, market success, technical success, and speed to market, strategic advantage gains, and social and ecological sensitivity.

In assessing Baxter's (2007) six-dimension evaluation framework of NPD success in regard to the New Zealand health supplement industry, firstly, the results of this research suggested that the multi-dimensional evaluation of NPD success was applied by most companies, and the factors of financial success, market success and strategic advantages gains were found to be the most effective factors which were more commonly applied by firms rather than factors of technical success, speed to market and social and ecological sensitivity. There are slight differences with the literature. For example, Baxter (2007) has suggested that the dimension of "social and ecological sensitivity" should be paid attention by many companies. But the findings of this research found the factor of social and ecological sensitivity was viewed as less important than other factors. Secondly, this research found that different companies assessed their NPD success differently, and it varied between the size of company and the type of product. For example, compared with large firms, small firms used limited dimensions for NPD success evaluation. Overall, in this research, Baxter's (2007) six-dimension NPD success evaluation framework was supported strongly in practice by large firms, and was partly supported by small size firms.

5.5 Theoretical implications

From a theoretical perspective, there are three important implications of this research. For the purposes of exploring the issue of customer involvement in the NPD process, relevant issues are suggested to be considered and discovered, such as the importance of NPD, customer involvement and evaluation of NPD success. In the first place, the results of this research showed that NPD is vital for business survival and future development, and that NPD as an effective business strategy was commonly adopted by firms to create benefits, such as providing customers' satisfaction, unique products, and opportunities of business extension. Also, knowledge of key determinants of NPD success is also important, especially the determinants of market, product and relationships are vital for NPD success.

Secondly, in order to create in-depth understanding of how customer relationships flow in the NPD process, it is important that researchers should consider and develop the knowledge of marketing relationship in NPD, processes of relationship development, NPD process and customer involvement. This study suggested that customers are very important for their NPD projects, and also that customers could significantly contribute to their NPD. Moreover, customers are involved in different stages with various degrees; this varies between the companies such as the sizes of company, and the types of new product. Furthermore, customers are more commonly and frequently involved in initial and final stages of NPD process.

Finally, when firms evaluating their NPD success as outcomes, multi-dimensional assessment are commonly applied by firms including key factors such as financial success, market success and strategic advantages gains and these were found to be the most important factors which were mainly considered by firms. However, other factors including: technical success; speed to market; and social and ecological sensitivity need to be considered sometimes, especially for large companies.

5.6 Managerial implications

From managerial perspectives, there are a number of managerial implications contained in this research. Firstly, in order to develop a successful new product, managers must have clear understandings about the determinants of NPD success based on both internal and external antecedents from the aspects of market, product, technology, relationship and organization. Secondly, for the purpose of achieving an effective NPD project, managers should have the ability to operate an effective NPD process, and each stage of the process should be managed carefully from discovery to launch. Thirdly, this study suggests that customers should be considered by managers for involvement in the process of NPD, through to various degrees depending on company context and product type. This is because involving customers in NPD project could effectively and efficiently help firms to achieve customer satisfaction, customers could significantly contribute to the NPD success. Hence, understanding and knowledge of customers are thus acquired by managers for their NPD success.

Moreover, knowledge of relationship development and methods of customer involvement are also important for managers to effectively involve their customers. Finally, for the aim of assessing the NPD success effectively, managers should have knowledge and ability to evaluate their NPD outcomes by using effective evaluation techniques. A broader range of facets of NPD success were suggested in this research, including financial success, market success, technical success, speed to market, strategic advantage gains, and social and ecological sensitivity.

5.7 Limitations

In this research, some practical limitations are contained in this case study. In the first place, only one interviewee was taking part in this research for each company, so the information is the opinion of only this one person, whose impressions may be biased. For the same reason the information gathered from each may lack detail. Secondly, this research activity focuses only on companies located in the Auckland region. Thus, the

result may lack validity for other New Zealand companies. Moreover, the secondary data which was gathered from the companies' websites may be biased, because much information and communication on companies' websites are provided by themselves. Furthermore, much of the literature deals with issues and contexts that may not be relevant in detail to the New Zealand health supplement industry. Therefore, the validity of the literature specifically for the New Zealand context is not certain. Overall, those limitations of this research project may directly influence the validity of the data.

5.8 Future research

As an outcome of the limitations of this research, future research is needed. Firstly, in reference to the research methodology, a broader range of companies in New Zealand should be involved in the future research, especially companies from other cities. In addition, more people from each company should be interviewed in the future research to increase validity and reliability of the data. Secondly, relevant issues of customer involvement in NPD still need to be researched in detail in the future, such as the issue of relationship development processes and customer interactions in each stage of NPD process. Moreover, established models such as Baxter's (2007) six-dimension evaluation framework should be tested in other industries in the future. Finally, other types of relationship involved in NPD process still need to be investigated in the future, such as issues of supplier involvement in NPD process.

5.9 Conclusion

In this chapter, regarding the main aim of the research and research questions, the discussion of three main issues has been presented based on the primary data. It suggested that key determinants of NPD success are vital and should necessarily be considered by firms. It suggests customers are involved in the NPD process to a reasonable extent, because customers could significantly contribute to the NPD success. By analyzing the data from six interviews and integrating it with established literature, the most important and effective success factors have been found in the New Zealand

health supplement industry, including factors of financial success, market success and strategic advantage gains.

Secondly, the established model which was used and tested in this research has been discussed based on the primary data. The results of the research suggested that there are only slight differences in the initial stages in the NPD process compared with Cooper's seven-stage NPD process, and Baxter's (2007) six-dimension NPD success evaluation framework was mainly supported strongly in practice.

Moreover, this research presented a number of implications both from theoretical and managerial perspectives. There are three important theoretical implications that have been presented which revolve around the issues of NPD, customer involvement in the NPD process and evaluation of NPD outcomes. From the managerial perspective, this research suggested that clear understandings about the determinants of NPD success and effective NPD processes are required by managers. Customers should reasonably be involved in the process of NPD. Managers need to have both the knowledge and ability to evaluate their NPD outcomes.

Finally, future research around this topic should be continued from the perspectives of research methodology, relevant research issues, and to test established model in other industries.

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Appendix 1: Ethics Approval Letter



MEMORANDUM

Auckland University of Technology Ethics Committee

(AUTECH)

To: Roger Baxter
From: **Madeline Banda** Executive Secretary, AUTECH
Date: 1 April 2009
Subject: Ethics Application Number 09/39 **Exploring New Zealand customer involvement in new product development in the Health Supplement Industry.**

Dear Roger

Thank you for providing written evidence as requested. I am pleased to advise that it satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTECH) at their meeting on 9 March 2009 and that I have approved your ethics application. This delegated approval is made in accordance with section 5.3.2.3 of AUTECH's *Applying for Ethics Approval: Guidelines and Procedures* and is subject to endorsement at AUTECH's meeting on 20 April 2009.

Your ethics application is approved for a period of three years until 1 April 2012.

I advise that as part of the ethics approval process, you are required to submit the following to AUTECH:

- A brief annual progress report using form EA2, which is available online through <http://www.aut.ac.nz/about/ethics>. When necessary this form may also be used to request an extension of the approval at least one month prior to its expiry on 1 April 2012;

- A brief report on the status of the project using form EA3, which is available online through <http://www.aut.ac.nz/about/ethics>. This report is to be submitted either when the approval expires on 1 April 2012 or on completion of the project, whichever comes sooner;

It is a condition of approval that AUTEK is notified of any adverse events or if the research does not commence. AUTEK approval needs to be sought for any alteration to the research, including any alteration of or addition to any documents that are provided to participants. You are reminded that, as applicant, you are responsible for ensuring that research undertaken under this approval occurs within the parameters outlined in the approved application.

Please note that AUTEK grants ethical approval only. If you require management approval from an institution or organisation for your research, then you will need to make the arrangements necessary to obtain this.

When communicating with us about this application, we ask that you use the application number and study title to enable us to provide you with prompt service. Should you have any further enquiries regarding this matter, you are welcome to contact Charles Grinter, Ethics Coordinator, by email at charles.grinter@aut.ac.nz or by telephone on 921 9999 at extension 8860.

On behalf of the AUTEK and myself, I wish you success with your research and look forward to reading about it in your reports.

Yours sincerely



Madeline Banda

Executive Secretary

Auckland University of Technology Ethics Committ

Cc: Yan Zhang tina570221@hotmail.com

Appendix 2: Participant Information Sheet

Participant Information Sheet



Date Information Sheet Produced:

23 FEB 2009

Project Title

Exploring New Zealand customer involvement in new product development in the Health Supplement Industry

An Invitation

Dear Participant:

You are invited to take part in a research study exploring New Zealand customer involvement in new product development in the Health Supplement industry. I would like to interview you to ask you about customer involvement in the processes of new product development (NPD), and in which stages are customers involved in NPD processes in the industry. This research is part of a Master of Business Dissertation at Auckland University of Technology.

Before you decide whether to take part in the study it is important that you understand what the research is for and what you will be asked to do. Please take time to read the following information and discuss it with others if you wish. It is up to you to decide whether or not to take part. If you decide to take part you will be given this information sheet to keep. You will also be asked to sign a consent form. You can change your mind at any time and withdraw from the study without giving a reason at any time prior to the completion of data collection.

What is the purpose of this research?

The purpose of this study is to create increased in-depth understanding of the success factors of NPD and in which stages customers are involved in the NPD process in the New Zealand health supplement industry. The result of this research will contribute to my qualification of a Master of Business at Auckland University of Technology.

How was I chosen for this invitation?

I am selecting three small companies and three large companies in the New Zealand health supplement industry which my research indicates are involved in NPD. In each company, the people who have responsibility for NPD and can provide me the required information will be selected as the interviewee in this research.

What will happen in this research?

I will ask you to sign a consent form to ensure you agree to take part in this research. I will ask questions about what factors does your firm use to evaluate the success of NPD and in which stages are customers involved in NPD Processes in your experience. This interview will take 10-20 minutes, and the result of this interview will be recorded on a voice recorder. During the interview, you have the right to withdraw from interview at anytime. I will then transcribe the interview and delete the data from the recorder.

What are the discomforts and risks?

No risks are anticipated. Because the questions are only about your NPD processes, they are not of a personal nature. If the question causes your discomfort or embarrassment, you are able to decline to answer any question.

What are the benefits?

This is a chance for you to tell your story about your experiences concerning customer involvement in new product development in New Zealand Health Supplement Industry. You will receive a brief report on the outcomes of the study, which will increase knowledge of NPD processes.

How will my privacy be protected?

Your responses to interview questions will be kept confidential. At no time will your actual identity be revealed. You will be assigned a random numerical code. The person who helps me transcribe responses will only know you by this code. The recording will be erased when my dissertation has been accepted. The transcript, without your name, will be kept until the research is complete.

The key code linking your name with your number will be stored securely, and no one else will have access to it. It will be destroyed when this project is finished. The data you give me will be used for my Master's dissertation only. I won't use your name or your specific information in a way that would identify you in any publications or presentations.

What are the costs of participating in this research?

This research interview will take you 10-20 minutes.

What opportunity do I have to consider this invitation?

You will have one week from the time I contact you to the proposed time for our meeting.

How do I agree to participate in this research?

You will be asked to complete a Consent Form. You will receive the Consent Form by post or e-mail.

Will I receive feedback on the results of this research?

Yes, I will provide you with a report of the interview outcome if you would like to receive it.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Roger Baxter, *roger.baxter@aut.ac.nz*, 9219999 ext 5808.

Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEK, Madeline Banda, *madeline.banda@aut.ac.nz*, 921 9999 ext 8044.

Whom do I contact for further information about this research?

Researcher Contact Details:

Yan Zhang. tina570221@hotmail.com

Project Supervisor Contact Details:

Roger Baxter. roger.baxter@aut.ac.nz

Approved by the Auckland University of Technology Ethics Committee on *type the date final ethics approval was granted*, AUTEK Reference number *type the reference number*.

Appendix 3: Consent Form

Consent Form



Project title: Exploring New Zealand customer involvement in new product development in Health Supplement Industry

Project Supervisor: Roger Baxter

Researcher: Yan Zhang

- I have read and understood the information provided about this research project in the Information Sheet dated dd mmmm yyyy.
- I have had an opportunity to ask questions and to have them answered.
- I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.
- I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.
- If I withdraw, I understand that all relevant information including tapes and transcripts, or parts thereof, will be destroyed.
- I agree to take part in this research.
- I wish to receive a copy of the report from the research (please tick one): Yes No

Participant's signature:

Participant's name:

Participant's Contact Details (if appropriate):

.....
.....
.....
.....

Date:

Approved by the Auckland University of Technology Ethics Committee on *type the date on which the final approval was granted* AUTEK Reference number *type the AUTEK reference number*

Note: The Participant should retain a copy of this form.

Appendix 4: Indicative Questions for Interviews

Indicative Questions for Interviews

General Questions

- How is your business currently?
- Are you developing or promoting any new product currently?
- If yes, what kind of products do you promote? And what markets do the new products target?
- Why did you decide to develop new products?
- Do you think the new products could create benefits to your business?

Research Questions

- What are the key factors that influence your new product development?
- What is your new product development process (how many stages involved in new product development process)?
- How important do you think the customer is when developing new products?
Why?
- Are customers involved in the process of your new product development? If not, why not?
- In which stages are customers involved in your new product development process?
Prompts: discovery, exploration, scoping, building the business case, development, testing, launch.
- Why do you involve customers in new product development process? How?
- What factors do you use to evaluate the success of new product development?
Prompts: financial success, market success, technical success, speed to market, strategic advantage gains, social and ecological sensitivity.