Proactive & Reactive Customer Integration during New Service Development Process

A Qualitative Case Study of the Service Industry (TSP’s) in the Småland Region of Sweden

Author: Mbachu, Innocent Chijioke

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<tr>
<th>Tutor:</th>
<th>Soniya Billore  PhD.</th>
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<tbody>
<tr>
<td>Examiner:</td>
<td>Rana Mostaghel  PhD.</td>
</tr>
<tr>
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<td>Int’l Sales &amp; Marketing</td>
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 |                    | Spring, 2013         |
## Abstract

**Title**  
Proactive and Reactive Customer Integration during New Service Development Process: A qualitative case study of the service industry (TSP’s) in the Småland Region of Sweden.

**Author**  
Mbachu, Chijioke Innocent

**Tutor**  
Soniya Billore PhD.

**Examiner**  
Rana Mostaghel PhD.

**Course**  
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**Keywords**  
New Service Development (NSD), New Product Development (NPD), Tangible Service Provider (TSP), Product-Based Service (PBS), Innovation, Integration, Interaction, Proactive, Reactive, Småland (located in the southern region of Sweden).

**Purpose**  
This research is aimed to examine the proactive and reactive activities that service firms undertake to integrate customers during process of NSD.

**Method**  
* Qualitative Research Technique  
* Deductive and Descriptive Study  
* Multiple Case Sampling  
* Semi-Structure In-depth Interviews  
* Cases (Four International product-based service companies) located in the Småland region of Sweden.

**Findings**  
* Successful proactive orientation through the means of vigorous communications and feedbacks exchanges with key customers during NSD enables positive thinking and empowers companies to integrate customers’ thoughts during early stages of service development.

* Not only by a company demonstrating a reactive orientation in identifying customers’ needs leads to new service ideas, but more significantly is that the approach of company reactiveness to customers can also lead to proactiveness.

* Longitudinal studies such as monitoring the market effect of services in existence, feedback methods, documentation in the form of taking customers statistics, the use of the company’s marketers were the key tools that companies use in identifying when to act proactively or reactively towards fulfilling customers’ needs and integrating customers in various stages.

* A successful customer orientation of a company can be achieved by doing things not exactly as expressed by customers, but by doing things differently bearing in mind what customers stated and also coming up with new services that offers greater expansions which surpasses current customers’ expectations.

* Integrating customers’ thoughts in implementation process helps both the company-customers see similar things and support the possibility of moving towards the same direction.
Acknowledgement

This bachelor thesis was written during the spring and summer of 2013, and is the result of months of hard work and commitment. Although the process of doing this thesis was very challenging and exigent, but more importantly to be noted is that it provided a deeper understanding of how firms (TSP's) proactive or reactive integrate customer(s) during the process of new service development.

This thesis however, wouldn't have been possible if it had not been for a number of persons who guided me during the entire process. First and foremost, I would like to take the opportunity to express my gratitude to Soniya Billore and Rana Mostaghel; my bachelor tutor and examiner respectively for their unwavering support. They were ever present when called upon and helped the project forward whenever obstacles arose. Secondly, thankfulness to all my study contributors and respondents: - (Bengt Svensson - IV Produkt AB; Linda Ungsten - Arcoma AB; Kristian Stenfelt - Balco AB; & Magnus Phil - MicroPower) for their useful insight in the field of new service and product development.

Last but no means least, I want to thank my family, friends and study colleagues for their support, encourage and belief throughout this project.


Innocent Chijioke Mbachu
cm222br@lnu.student.se
chicent13@gmail.com
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CHAPTER 1

Introduction

This chapter discusses the new service development, the significance of integration during NSD innovation, importance of tangible service, benchmarking that led to the service contracting and role of Tangible Service Providers (TSP’s) in providing Product-Based Services (PBS). The study identified a research gap leading to the aim of the study.

Delimitations in the present study were highlighted and a state of the art was presented to justify the relevance of the study in which the chapter wrapped up with an overview of the thesis outline.
1.1 Background

With the rapid pace of structural changes in service industries in many developed markets, New Service Development (NSD) has become visible as a strategic imperative for most service firms (Alam, 2006). Up-and-coming literatures in the field of marketing and business management have emphasized on the importance of early stages of NSD and the role of customers in a service innovation process (e.g. Alam, 2013; Clatworth, 2011; Fitzsimmons & Fitzsimmons, 1999; Zomerdijk & Voss, 2011; Smith et al., 2007; Kelly & Storey, 2000; Syson & Perks, 2004; Ottenbacher et al., 2006; Lin & Su, 2007). Academic journals about the service innovations have accentuated the importance of idea generation, idea screening and concept development stages of NSD (e.g. Alam & Perry, 2002; Barczak, 1995; Iwamura & Jog, 1991). Customer integration during the development process for both tangible products and services; involves working within and outside an organization or firm’s market environment (Ibid); this means that customers play active roles in the development of new products or services in today's business environment. Services are still differentiated based on service four unique characteristics: inseparability, intangibility, perishability and heterogeneity (Lovelock, 1983; Zeithaml & Bitner, 2000). However with today's globalization which led to the need of building efficiency in product process management and standardization, there are growing practices whereby previous industrial activities which are done in most organizations are today sourced (internationalization, partnership, outsourcing, contracting or subcontracting) to other industrial manufacturers (Mathieu, 2001a).

Johansson and Olhager (2006) emphasized the understanding of integrated decision-making on process choice for manufacturing and industrial service operations; gave emphasis to a trend towards the integration of goods and services into a single customer offering, indicating that production means the creation of a combined goods and services product. Thus a product can be a service, goods, or most likely, a combination of both; since there are many possible relationships between the manufacturing of an industrial good and the industrial servicing of that good and parts (Ibid). Grönroos (1998), highlight that introducing relationship in manufacturing enables firms to create potentials to build a continuous integration which make services tangible. According to Kindstrom and Kowalkowski (2009), these types of services are tangible because it
involves the actual creation of products which are delivered for utilization by other businesses or corporate bodies.

Today, the services activities in relations to tangible products are recognized as vital to the industrial growth in Northern Europe as well as the Småland region of Sweden (Elmia.se). There are several forms of defining a service-contractor depending on the industry they are involved. As related to this study: service firms or contractors can be defined as companies *(Tangible Service Providers – TSP’s)* that sign contracts with customers *(OEM’s, corporate organizations, institutions and industrial partners)* to supply intermediate products, specific components and services or more complex inputs (Giunta et al., 2012). These companies are openly engage in activities deliberated to offer differentiated innovative services to a wider collection of businesses, thus their activities are today more independently acknowledged globally (Ibid).

He and Lai (2012) highlighted that TSP’s offer product-based services *(PBS)* which is fundamental transformation strategy for industrial manufacturing companies. TSP's activities have a positive direct effect on customers' performance; this is due to the collaborative approach in which the service firms provide. This in turn enhances learning and knowledge sharing between TSP's and customers (Eriksson et al., 2007). Frambach et al. (1997) emphasized that product-based services can be classified either as transaction related or relationship related. Transaction related by business processes between a firm and customer, relationship related by building partnerships and integration of ideas. Gebauer et al. (2005) identified that the establishment of a market-oriented and responsively well-defined service development process focuses service offerings on the value creation to the customer which prompts relationship and integration in markets. However, building these relationships can be of huge challenge in NSD due to the fact that there are differences (e.g. knowledge capability, resources) between the service provider and its customers; this means that integration and harmonization of inputs in the creation of a new service cannot be understood as being spontaneous (Miller et al., 2002). Therefore, it will be appealing and worthy research for ambitious academies and aspiring business managers to empirically investigate and shed more lights on the process of integration (relationship) between service firm and its customers in NSD process.
1.2 Problem Discussion

The process of NSD is generally complex and can be problematic to describe and articulate (Perks & Riihela, 2004). There are aspects of service development (flexibility, timeliness, quality control) that need carefully looked upon that do not necessarily exist in a company’s new product development (NPD) processes (Kindstrom & Kowalkowski, 2009). Rather they are outsourced in order to create efficiency and flexibility in production processes (Ibid). The reality today is that service delivery and service interaction with co-produced value-in-use is a pivotal aspect of most service firms in today’s market (Normann, 2001; Vargo & Lusch, 2004). Therefore mobilizing or integrating customer knowledge during NSD process which involves learning from within and with the customer today is an obvious challenging process (Grabher et al., 2008). This makes an overall structural and social practice through which customers’ knowledge is integrated into development processes remaining less detailed (Ibid).

Most innovation literature according to Utterback (1994) has primarily focused on products and studies of service innovation or development are still in a relatively premature development phase due to decades of negligence in relation to manufacturing (Drejer, 2004; Gebauer et al., 2008). According to Edvardsson et al. (2006), existing NSD literature on the other side focuses on either consumer markets or on professional service firms, or rather conventionally more centered on financial services. Some recent studies NSD on consumer services and on professional service firms are focused on firms without any tangible products (Silvestro et al., 1992; Buzacott, 2000; Alam & Perry, 2002; Alam, 2006; Droege et al., 2009; Nicolajsen & Scupola, 2011). Hence, there are existing gaps and inattention with regard to NSD in the perspective of service firms with tangible service offering (Giunta et al., 2012). There are large dissimilarities (e.g. in terms of resource margins) between a service provider and its customers. As a result, integration and synchronization during NSD between both cannot be interpreted as being easy and automatic (Miller et al., 2002). Therefore, it is also relevant to increase our knowledge of understanding about integration practices of service firms and its customers in the process of NSD and enhancement of value creation (Ibid).

Pedrosa (2012) conducted a study about customer integration during innovation development in the services industry; the result showed firm’s orientations and customers activities were both proactive and reactive during idea generation,
development and implementation. Proactive customer association reflects the identification and satisfaction of latent customer needs, while reactive customer association talks about the understanding and satisfaction of expressed customer needs (Narver et al., 2004). Sandberg (2007) highlighted that firms pursuing proactive and reactive customer integration at the NSD stage seems to be connected to market opportunities in which they are reacted to, projected or produced. However these recent studies conducted (Sandberg, 2007; Pedrosa, 2012) due to the exploratory contexts of research and the huge complexity of the organizations understudied (mainly firms with intangible services); could not fully empirically examine in what ways or how service firms (PBS) embark in proactive or reactive integrating customers during NSD (Ibid). An important facet to be noted was that the study outcomes of Sandberg, 2007; Pedrosa, 2012 support the conception that proactive and reactive customer integration are imperative to promote and initialize knowledge co-creation which stimulates and advances a firm's innovation development competence (Ibid). However, enlightening these dynamic relationships underlying customer integration and it outcomes still leaves much to shed light on in the future (Ibid). Therefore considering these study findings, it will be meaningful looking at managerial implications and academic relevance to conduct an extensive empirical study to increase our knowledge and understanding of how PBS firms (TSP's) proactively or reactively integrate customers during the identified three (3) stages of NSD namely; idea generation, development and implementation stages.

1.3 Research Purpose

This research is aimed to examine the proactive and reactive activities that service firms undertake to integrate customers during process of new service development.
1.4 Delimitation

This paper was an empirical case study, solely focuses on the activities service firms (TSP’s) in Småländ region of Sweden. Miller and Dess (1993) pointed out that no single research application can fully satisfy all possible criteria. Hence, the empirical data gathering of this study was conducted in Sweden, since the author and University are located in the northern region of Europe. This makes easy accessibility to information and materials gathering that were necessary for completion of the research.

1.5 Justification and Relevance

The interest in the field of study was built up during the author’s bachelor studies about product and service development in various markets. The growing visible market and undertakings of PBS firms in the Småländ industrial region of Sweden (Elmia.se), created an opportunities to make a research about their service integration activities. The tangible services of these companies to most businesses or corporate organizations have created new partnership and co-operation avenues in today's market (Giunta et al., 2012). According to Cadwallader et al. (2010), this service sectors are fundamental to the economy of the industrialized countries because they signify the sectors with the highest expansion. Therefore the focal emphasis in this study were founded and initiated by the identified research negligence of tangible service offerings, the highly recognized offerings by tangible-service-providers (PBS firms) in Småländ region of Sweden (which have opened up co-operation channels; Elmia.se) and also in the fulfillment of the gap found in the problem of discussion (Sandberg, 2007; Pedrosa, 2012) which prompted for an empirical research in the product-based service industry.

1.6 Outline of the thesis

The study is divided into seven chapters and is structured as follows:

1. Chapter one discusses the NSD concepts and its importance, Product-Based-Services (service tangibility) and Tangible-Service-Providers in a manufacturing context. A research gap leading to the purpose of the study is also presented and followed by the chosen delimitations.
2. Chapter two presents a literature review of existing literature on NSD, proactive and reactive customer integration. The chapter also further explains the research gap that is the center of this study.

3. In chapter three, a proposed research model as well as the research questions serving as basis for the current investigation are presented.

4. Chapter four presents and justifies for the chosen methodological stand points taken for this qualitative research.

5. In chapter five, the empirical data gathered from the firms studied were displayed. Data for each case is presented in accordance with the research conception model.

6. Chapter six presents a cross-case analysis of the empirical data; which compares the data from the cases as well as discusses the findings relation to previous studies.

7. Chapter seven presented the conclusions of the study by answering the research questions. In addition to that, theoretical and managerial implications as well as limitations of the study were discussed and suggestions were made for future research.

Figure 1: General Flow of the Research
CHAPTER 2

Literature Review

In this chapter, definitions using previous research articles and implication relating to NSD Process, Customer Integration Practices, NSD Stages and an over view of NSD in industrialization were outlined and discussed using academic peer reviewed literatures.
2.1 Overview of NSD in Industrialization

2.1.1 Service Activities of TSP’s

An essential and noticeable characteristic of the manufacturing industry and corporate organizations in today’s business environment, is the practice of (sub)-contracting portions of a project to specialist company by main outsourcers (Eccles, 1981; Elmia.se). TSP’s offer various services to their customers (outsourcers), their service creation in terms of tangible products (PBS) most often are the pivotal (essential) parts of other businesses (Neu & Brown, 2005; Kindstrom & Kowalkowski, 2009). These service activities of TSP’s are today highly scrutinized (Ibid); this is because such services usually consist of frequent interactions and response from customers (Gallouj & Weinstein, 1997; Edvardsson et al., 2006). Saad et al. (2002) mentioned the importance influence of interactions and feedback mechanisms for innovation between firms. This has moved the focus from internal structures and practices to external relationships and processes (Ibid).

Successful innovation often requires active co-operation, co-ordination and working relationships between the different parties in specific projects (Ling, 2003). This according to Gann and Salter (2000) is due to inter-reliance between components and sub-systems in the built business environment. It demands knowledge sharing and interaction between different organizations, customers, partners and outsourcers (Ibid). TSP’s energetically support main customers to fulfill their developments by providing product-based services that meet project specifications which they are eventually responsible for (Hartmann et al., 2009). Giunta et al. (2012 p.107) highlighted four paths of expansion for service firms with regards to growth paths and the global value chain approach, these include:-

1. Increasing technical efficiency.
2. Strengthening inter-firm connections with partners to build a more consistent and cooperative network than that of rivals.
3. Improving the quality of their function along the chain, or moving to higher-quality functions.
4. Introducing new services or increasing the range of services offered.
2.1.2 Selecting a Service Provider (TSP)

With the notion that all TSP’s (product-based-service firms) are not superior with respect to all performance criteria for a particular service activity, a customer balances important criteria when choosing a service provider. Hartmann et al. (2009) investigated the relative importance of the four measures: price, technical know-how, quality and cooperation; as standards and criteria used by various customers when embarking on the process of selecting a service contractor to offer specific type of service.

a. Price is a criterion because according to Hartmann et al. (2009), firms that do not come close to maximizing their profits and minimizing their costs are not likely to survive in the long term.

b. A firm who performs specific tasks on a project is required to possess a definite technical know-how to undertake the required service. Technical know-how according to Gushgari et al. (1997) talks about understanding of complex components required to effectively complete an assignment or job connected with a given business.

c. According to Hartmann et al. (2009), quality is the extent to which a firm (service provider) actually deliver products or services that meet project requirements. Pain and Bennett (1988) highlighted that quality may consist of various aspects which include: technical quality, functional quality, workmanship quality, and architectural quality.

d. Co-operation is an essential factor when considering a service provider. According to Humphreys et al. (2003), the firm’s services have to be executed through relationships established with customers. Interaction or the extent to which the firm (TSP) fulfill agreements which practically solve and prevent problems is understood to be highly significant for the functioning efficiency of projects (Ibid).

Finally according to Furlan et al. (2007), service providers need to take dynamic responsibilities and assume positive behaviors towards customers. They are also required to develop specific tangible service or process technologies, so that they can be
integrated in the customers’ products or processes which are requisite to be an integrative part of theirs and customers’ value propositions (Ibid).

2.2 New Service Development

2.2.1 NSD Study Approach

In the study about NSD, there is a continuing contemplation about whether NSD processes are distinctively different from those of NPD (Jin et al., 2012). There are three approaches to studying the development of new services; the assimilation approach, demarcation approach, and synthesis approach (Coombs & Mile, 2000; Jin et al., 2012).

The assimilation approach emphasis that the concepts developed in the product context can be applicable to the service context (Jin et al., 2012). Nijssen et al. (2006), this is supported by the observation that flourishing service and manufacturing firms share similar development approaches. Some literatures have shed lights on the proven links between the use of NPD tools and increased NPD performance (Nijssen & Frambach, 1998; Barczak et al., 2009). According to Koller and Salzberger (2009), some studies also have applied classic NPD tools in the service context such as benchmarking (e.g. Outsourcing, Internationalization or Subcontracting).

The demarcation approach, according to Jin et al. (2012), which emphasizes that NSD possesses distinctive features, therefore approaches to NSD should be specially designed rather than directly adapted from NPD. Fähnrich and Meiren (2007), emphasis the direct application of classic NPD tools might offer little value to NSD projects.

According to Drejer (2004), the synthesis approach supports the integration of relevant concepts from both service and product contexts, and is based on the fact that many of the argued peculiarities of NSD also relate to NPD and vice versa. Jin et al. (2012), most existent NSD tool studies treat one particular tool as the unit of analysis, there is no single tool that can handle all the critical issues that firms may encounter in NSD projects (Ibid). As a result, there is a need to take a holistic observation by taking into accounts both NPD tools and specific service development tools (Jin et al., 2012).
2.2.2 Overview of the NSD Stages and Service Classification

Competitive pressures in most globalized industrial and service sectors have given rise to a new found aggressiveness that questions established service offerings which calls for new ways of identifying and satisfying customers' needs (Scheuing & Johnson, 1989). New Service Development today has become known as a strategic imperative for most service firms (Alam, 2006). Successful new services rarely emerge by mere coincidence, but rather they tend to be the outgrowth of a properly designed structure and a carefully coordinated process (Ibid). Bowers and Michael (1986), identified that customers can be integrated in the different stages of NSD in service industry. These include in the followings: - development of business strategy, development of service strategy, idea generation, concept development and evaluating business analysis, service development and evaluation, market testing and lastly commercialization.

Alam and Perry (2002) identified ten stages of NSD; however they laid more emphasis on the importance of idea generation, idea screening and concept development stages of NSD. According to Montoya-Weiss and O'Driscoll (2000) these stages are often called the fuzzy front-end of an innovation process because they typically involve indefinite process where ad hoc decisions are taken. Alam (2006) highlighted that several researches on customer interaction and customer orientation has provided valuable insights into the role of customers in several key services marketing issues including, service provision choice, customer co-creation, service quality information scheme, customer service perceptions, building lasting relationship with clients and also overall service marketing achievement. However, such insights may also not be directly applicable to all process of customer interaction in the fuzzy front-end of NSD (Ibid). Therefore there are numerous keys concerns in interacting with customers; these includes:- shorter development cycle time, linking the ideation process to the specific objectives of customer, problems in identifying suitable customers, customers revealing sensitive information to rivals (Alam, 2006).
According to Mathieu (2001) service approaches of manufacturers can be classified into customer service, product services, and service products. Customer service is aimed at facilitating a company's sales at the expansive level; product services facilitate the sale of a product which is provided by the company and support product operation; while service products are independent of the company's tangible offerings and can be purchased separately from other transactions or benchmarks (Ibid). Oliva and Kallenberg (2004) proposed a classification through two dimensions: focus of customer interactions and focus of value proposition. The main objective of product-related services is to ensure proper product functioning (Gebauer, 2007). Hence, companies add product-related services to the primary customer activity chain of operating their products such as machines and pieces of equipment, spare parts, and repairs (Ibid)

### Table 1: Customer Roles in New Service Development Stages

<table>
<thead>
<tr>
<th>Ten stages of NSD (Alam and Perry, 2002)</th>
<th>NPD phases (Nambisan, 2002; Nambisan and Nambisan, 2008)</th>
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<tr>
<td>Strategic planning</td>
<td>Ideation</td>
<td>Customer as resource</td>
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<td>Idea generation</td>
<td>Design and development</td>
<td>Customer as co-creator</td>
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<td>Idea screening</td>
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<td>Business analysis</td>
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<td>Formation of cross-functional team</td>
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<td>Service testing and pilot run</td>
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<td>Test marketing</td>
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<td>Commercialization</td>
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<td>Product support</td>
<td>Customer as user</td>
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According to Alam (2013) stated that previous studies connected to new product or service development have acknowledged the important role of customers in NSD providing useful insights into this key area of innovation. The marketing and innovation literatures continuously emphasises the significance of integrating customers into the innovation development process to upsurge companies’ innovation performance (Vázquez et al.,
Previous literatures reviewed also showed that customer integration or involvement in NSD or NPD are likely not so much in differentiating and sometimes considered as same process (Drejer, 2004).

Alam and Perry (2002) establish that user involvement may have a positive influence in all the phases of new service development, but also stresses customer involvement in idea generation and idea screening are found to be the most imperative. Witell et al. (2011) highlighted that customers should assume the role of co-developer during the early phases of the service innovation process; such a role facilitate customers to put forward the types of ideas that the company should build up and may also assist in the design of an early prototype. Customers may contribute in different degree such as: stating their needs, problems and solutions or show their dissatisfaction about an existing service (Ibid). When comparing the customer roles in new product development (Nambisan, 2002) and new service development (Alam & Perry, 2002) it can be strengthened that customers can have similar roles in new service development and also with regards to new product development. According Vargo and Lusch (2004), previous manufacturing studies show that manufacturers develop services that are co-innovated with their customers. These services act as a resource position fence and can be transformed into an entry barrier for business rivals, thus manufacturing firms thereby create conditions where their own resource position makes it very intricate for competitors to match-up (Gebauer et al., 2008).

### 2.4 Customer Integration in NSD Stages

Customer integration according to Alam (2013) is the process of obtaining input from customers and connecting or engaging them at various stages of NSD project, has been identified as a key requirement for new service success. Customer integration in service innovation refers to the degree to which service providers interact with current or potential representatives of various customers at different stages of the new service development process (Matthing et al., 2004). Service firms consider its customers as partners and interact with them extensively to obtain necessary input for their NSD projects (Ibid). Service firms also implement customer integration ideologies for their innovation activities because customer interaction in NSD offers many benefits, including developing superior services, reduced cycle time and rapid diffusion of
In assessing the impact of customer integration in NSD, it is important to consider the stages of the development process where customer interaction takes place. Alam and Perry (2002) identified ten (10) stages where by resourceful customer can be integrated, this is explained in the figure below:

<table>
<thead>
<tr>
<th>New service development stages</th>
<th>Activities performed by the customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Strategic planning</td>
<td>Feedback on financial data.</td>
</tr>
<tr>
<td>2. Idea generation</td>
<td>State needs, problems and their solution, criticize existing service; identify gaps in the market; provide a wish list (service requirements); state new service adoption criteria.</td>
</tr>
<tr>
<td>3. Idea screening</td>
<td>Suggest rough sales guide and market size; suggest desired features, benefits and attributes; show reactions to the concepts; liking, preference and purchase intent of all the concepts; help the producer in go/kill decision.</td>
</tr>
<tr>
<td>4. Business analysis</td>
<td>Limited feedback on financial data, including profitability of the concepts, competitors’ data.</td>
</tr>
<tr>
<td>5. Formation of cross-functional team</td>
<td>Join top management in selecting team members.</td>
</tr>
<tr>
<td>6. Service design and process system design</td>
<td>Review and jointly develop the blue prints; suggest improvements by identifying fail points; observe the service delivery trial by the firm personnel.</td>
</tr>
<tr>
<td>7. Personnel training</td>
<td>Observe and participate in mock service delivery process; suggest improvements.</td>
</tr>
<tr>
<td>8. Service testing and pilot run</td>
<td>Participate in a simulated service delivery processes; suggest final improvements and design change.</td>
</tr>
<tr>
<td>9. Test marketing</td>
<td>Comments on the marketing plan; detailed comments about their satisfaction of marketing mixes; suggest desired improvements.</td>
</tr>
<tr>
<td>10. Commercialization</td>
<td>Adopt the service as a trial; feedback about overall performance of the service along with desired improvements, if any; word of mouth communications to other potential customers.</td>
</tr>
</tbody>
</table>

*Table 2: Customer Input in New Service Development Process*

*Source:* (Alam & Perry, 2002 p. 527)
Taking into consideration of the significance of the stages stipulated where by customer integration yield most value proposition (Montoya-Weiss & O'Driscoll, 2000), integrating between a firm and customer in all ten stages will incur huge cost on resources and lots of precious time that could be save for other business activities (Ibid). Customer integration during NSD process is most fundamental in the following three (3) stages: - idea generation stage, development stage and implementation stage (Pedrosa, 2012).

2.4.1 Idea Generation Stage

Idea generation stage is identified as being one of the most fundamental stages of new service development (Alam & Perry, 2002). “Customers actively participate in the early phases of the development process by contributing information about their own needs and/or suggesting ideas for future services that they would value being able to use” (Witell et al., 2011, p.143). Customer integration in this early stage of idea generation leads to a swing away from the conventional method of involving customers during the latter phase of prototype testing towards recognizing customers as active participants for co-creation during the ideation phase (Ibid). Alam (2006 p. 472) “customer activities as this stage helps describe needs, problems and possible solutions; suggest desired features, benefits and preference in a new service via brainstorming or focus group sessions; identify financial problems not solved by the existing services; evaluate existing services by suggesting likes and dislikes; identify gaps in the market; provide a new service wish list”.

Guimaraes and Langley (1994) talked about the need for high performance firms to adopt a creative environment for idea generation. McAdam and McClelland (2002) highlighted that idea competition can help to foster a more innovative culture. There are evidence from previous literatures about the strong relationship between the number of idea generation techniques and the number of successful product or service (Ibid). According to Rickards (1985) companies develop innovation approaches over time through interactively communicating with their selected surroundings (e.g. consumers, partners, institutions and government) which have a direct impact on the acceptance of any new idea, and an indirect influence on future ideas. Companies listen to their
environment in order for them to decide how to serve their marketplace with new products and service (McAdam & McClelland, 2002).

2.4.2 Development Stage
The development stage according to Sandberg (2007) is said to be the process of putting a new idea into a physical and psychological unit. According to the theoretical conception, during service development stage, technical department initiates the real service or product framework (Crawford & Benedetto, 2008). Prototype is developed and thereafter testing takes place. A company may choose to test a prototype internally within the company (either by the use of software or directly in the proposed field) or externally with the help of resourceful customers (Cooper, 1990). According to Sandberg (2007, p. 256) “customer integration at the development stage seems to be connected with customer needs, i.e. whether these needs are reacted to, anticipated or influenced”. Alam, (2006, p. 473) talked about customers integration or involvement during new service development stage involves “Jointly develop initial service blue prints; review and evaluate the initial service blueprints to crystallize the concepts; suggest improvements by identifying fail points in service delivery; observe a mock service delivery process by the key contact employees; participate in a simulated service delivery process as a customer; compare their wish list with the proposed initial service blue prints”. The overall practice in integrating customers during new service development stage thus constituents the conversion ideation into an innovative conception that can be implemented and launched (Pedrosa, 2012).

2.4.3 Implementation Stage
Implementation stage is an important stage of new service development that takes place after the prototypes testing (Sandberg, 2007). Implementing quality in a service involves careful attention to both tangible and intangible aspects of service delivery starting from the idea generation stage through to the final operational facets of implementation (Gilmore, 2007). It involves working together and exchanging resources feedback from both end of the spectrum (Ibid). According to Pedrosa (2012) research findings, during the implementation stage, company and customer identify problems or areas that may not be previously established. During an implementation stage, complications may
arouse due to the insufficient flow and clarity of communication within organizations or with customers; this may create unawareness to current customer expectations and of any prospective or mutable requirements (Ibid). Thus Gilmore (2007 p. 188) stated “To improve the implementation of quality in services, it is important to ensure that all initial planning and creation of new ideas for service improvement includes and involves the different levels of managers, operational supervisors and staff involved in the service delivery. It is important to recognize the need for participation, joint effort, involvement, and ownership of all concerned in the new plans and their execution”.

2.5 Customer Interaction

Interaction is one of the differentiating elements of service offerings (Johne & Storey, 1998). As a result of this, businesses developing new service offerings cultivate their customer relationships; which in this aspect according to Kindström and Kowalkowski (2009), makes NSD a more multifaceted process with a greater emphasis on relationship longevity (fortitude). Customer interactions are particularly effective when the parties involved are committed, ready to co-operate, build relationship and share resources in the quest of common goals which leads to a strategic partnership (Lee et al., 2009). During interaction in order to create a new product or service, the customers are the outsourcers (can also be OEM’s or Distributors) pursue strategic partnership with the service firm (tangible service provider - TSP) by benchmarking of practice i.e. delegation of specific task to be carried out by the TSP (Ibid). According to Lee et al. (2009), the service-contractors (PBS firms) in this practice (interaction) are strategic partners; this in turn requires the need for the TSP’s to accelerate the application of its know-how, capabilities and specialized knowledge in order to fully develop a new product or service that must satisfy customers requirements (Ibid).

Customers have being widely recognized as co-creator in the development process of new products and services (Nambisan, 2002). There is a shift away from the traditional method of interacting passively (between TSP’s and customers) during the latter phase of prototype testing towards viewing them as dynamic contributors for co-creation during the process of service development (Witell et al., 2011). Integrating customers into the innovation development process have the capacity to help companies define untapped customer needs and capitalize on customer competencies to foster innovation.
Pedrosa (2012) in his summarization on the research case study about customer integration during service innovation development; highlighted that companies focus on both proactive and reactive toward interacting with customer, during idea generation and implementation. Thus, this makes proactive and reactive customer integration emerging as two imperative forms of activities associated to customer’s and firm’s interactions during innovation development process (Ibid).

Johnson (1998) highlighted that the main difference between proactive and reactive methods is that reactive methods capture consumers’ spoken needs, while proactive methods seek to capture a wider range of information, in the form of unspoken (latent) needs.

According to Sandberg (2007 p. 255), “in cases in which the need statement of the customer is rather general, for example an articulation of problems with existing products or services, the firm may have to anticipate what kind of solution the customer really wants or needs”. A firm anticipation of customers’ need appears to be predominantly essential in identifying latent needs; however it also seems relevant in the identification of customers’ future needs (Ibid). “Customer behavior can be influenced directly, i.e. without regard to the cognitive structures, or indirectly, i.e. causing cognitive change, which then changes the behavior (Sandberg, 2007 p.255)”. Sandberg (2007) further highlighted that indirect influencing of customer behavior entails determining perception of offerings ahead of time. For example, a firm may build new needs by introducing a deep-seated (radical) innovative product or service in the market, notifying its customers about the new benefits that are embedded in the new product/service, in addition by showing (educating) customers how to use it (Ibid). Jaworski et al. (2000) highlighted that this may turn around preferences of existing customer, thus upsetting existing needs. Sandberg (2007) illustrated more, using a graphical figure which is provided below.
Figure 2: Customer needs and the firm’s proactiveness
Source: Sandberg (2007, p. 225)

2.5.1 Proactive Interaction

According to Witell et al. (2011), a firm with a proactive market research technique such as the lead-user method, enables customers to provide information to the firms that has been already processed by resources that have a stronger set of skills connected to value-in-use. Proactive research techniques capture a wider range of customer information, when knowledge from the context of use gives rise to an impending (future) market offering that is being developed and is more likely to yield customer satisfaction (Johnson, 1998). A firm’s proactiveness enables opportunity seeking; forward looking, perspective that involves introducing new product or differentiated product ahead of competitors (Lumpkin & Dess, 1996). Proactiveness during NSD supports companies to deliver greater customer value constantly (Narver et al., 2004). Proactiveness leads to innovation and market orientation, which eventually increases customer value (Shabbir et al., 2010); when firms pursue proactive orientation, it empower them acquire a large share in their markets because they mostly offer the product which their customer wants from them (Ibid). A firm’s proactiveness capabilities toward customers are essential for the creation of potential competitive advantage for its business (Hult et al., 2000). According to Kindström and Kowalkowski
(2009 p. 168) “Managing NSD proactively and strategically is vital in order to achieve momentum and sustain competitive advantage as services are increasingly becoming a key differentiator”.

2.5.1.1 Customer Proactiveness during the Idea-Generation

Johannessen et al. (1999) described customer-related proactiveness as acting based on the information gathered about the customers prior to their behavior has had a direct influence on the firm; or as a conscious impact and creating changes in behavior. Sandberg (2007) stated that this customer-related proactiveness may play a crucial part in creating a market that wasn’t in existence when the innovation development commenced. Customer proactiveness during the idea-generation stage begins with a search for or the picking up of ideas for a new product or services, and ends with the decision to proceed with the product or service development (Ibid). According to Sandberg (2007), customer-related proactiveness at this stage seem to be connected to market opportunity; whether the opportunities are responded to, foreseen or generated. Results from earlier studies also suggest that opportunities in the market are often anticipated at the idea-generation stage, and this is also analytic of proactiveness (Sandberg, 2007).

By vigorously observing customers’ behavior during the idea generation stage enables a company to identify customers’ unexpressed preferences and requirements (Pedrosa, 2012). Kodama (2007) highlighted that understanding of customer requirements which includes customers' businesses and environments, facilitate companies to deliver better innovations. According to Lievens and Moenaert (2000), a company can profit from paying special attention during all customer interactions to discover customer needs that are not expressed in direct and verbal ways. Pedrosa (2012) highlighted that spotting customer behaviours enables the companies identify unknown and forthcoming customer requirements. Finally in addition to customer proactiveness, it is more important for companies also have to understand, interpret and prioritize identified customer needs by themselves (Ibid).

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2.5.1.2 Customer Proactiveness during the Development

Customer-related proactiveness at this stage according to Sandberg (2007) is to be connected with customer needs; whether these needs are countered, anticipated or predisposed. Companies in this stage tend to develop prototypes themselves (Ibid). Sandberg (2007) highlighted that once the prototype has been developed, the development process tends to become more customer-oriented and more customer input is utilized. The prototype enables the firm to give its customers a true sense of the innovation for the first time to evaluate and to assess their response (Ibid). This in turn helps it to further verify the specifications and to assess market attractiveness, thus companies make progress on the innovation development by this process which also address identified latent customer needs (Pedrosa, 2012).

2.5.1.3 Customer Proactiveness during the Implementation

Pedrosa (2012), in his exploratory case study, found out that proactive integration of customers during implementation was necessary to further decrease unknowable problems that may affect the service features, thereby increasing customer trust. Companies have to proactively listen to the needs of the customers during implementation as this helps identify new customers’ needs are implemented during the innovation or new service initiated (Ibid). Bagozzi and Dholakia (2006) talked about companies recognizing customers as key partners and to draft in their knowledge in a co-operative positive approach. As highlighted by Pedrosa (2012), the company's customers perceived themselves as partners, thus both customers and companies will appreciated this type of partnership as it increases the level of co-produced understanding in the service process.

2.5.2 Reactive Interaction

In the practice of reactive market techniques, customers provide the organization with information resulting from direct questions and instructions; the organization's human resources then process this information and use it for development (Witell et al., 2011). A firm’s strategic reactivity is often defined as expedient requirement for competitive success in the 21st century (Nadler & Tushman, 1999). According to Slater and Narver (1998), customer-related reactivity implies that the companies give attention to
understanding and satisfying the articulated (spoken) needs of its customers. Johnson (1998) argued that reactive methods have elicited amount of data on performance attributes. Service attributes for which incremental improvements are appreciated, only provide not much insight into the unexpected attributes that enchants customers but also increase clients attachment to the service provider (Ibid). Flint et al. (2005), a reactive approach succeeds in situations where by innovativeness is accomplished as result of customer requirements and proposition to certain needs.

According to Kimberly et al. (2008), when the expected results of a firm's proactiveness are not realized, the firm should re-think its activities in order to cut their losses and redirect their efforts through demonstrating of strategic reactiveness. Thus, strategic reactiveness is useful for correcting the mistakes that inevitably transpire as firms navigate innovative business activities (Ibid). Sandberg (2007) highlighted reactiveness tends to be more dependable and more cost efficient than proactiveness. It was highlighted in Sandberg's study that most firms may opted for reactive integration, provided that it has feasibility and can be implemented if it does not endangers their competitive market advantage. However, according to Grönroos (2008), when potential customer’s expresses their impending needs; it should not always be used as direction for service development. Rather, an emphasis on customer practices implies that service development should be based on knowledge that goes beyond articulated needs and conventional market research techniques (Kindström & Kowalkowski, 2009).

2.5.2.1 Customer Reactiveness during the Idea Generation

A reactive market orientation is a business’s attempt to understand and to satisfy customers’ spoken or needs (Narver et al., 2004). Reactively integrating customers during the idea generation stage of the innovation development process of a service, helps a firm to discover existing customer needs (Pedrosa, 2012). During this process, customers not only help in detecting difficulty or set-backs in crucial areas but also support and encourage the firm to implement ideas through which the firm might have an advantageous market competence (Ibid).
2.5.2.2 Customer Reactiveness during the Development

A reactive customer activity during development stages occurs by the customer needs expression. According to Narver et al. (2004), expressed customer needs, requires expressed result and solutions to a customer of which the customer is responsive to. Examples (shape, texture, material, colour, resolution, use interface etc.) of service/product customer requested in the development stage can be numerous depending on the customer’s spoken or identified needs (Ibid).

2.5.2.3 Customer Reactiveness during the Implementation

Customer’s integration during implementation stage is highly important for the service success because services are primarily produced to be delivered to customers (Vargo & Lusch, 2004). According to Pedrosa (2012), a company therefore fully relies on their customers in this very important stage. Customers get in touch with the service provided to express their articulated (spoken) needs regarding how the service-product is needed to be adjusted before implementation (Ibid).

2.6 State of the Art

After the reviewing of the academic literatures relevant to the focal topic of discussion, it was notice that various authors have laid foundation and shed light on the NSD integration practices and also ended up calling for more studies in respective to new service or product development involving customer. This is due to the fact that new technologies and globalization which have made knowledge of customer integration in development process more open and underspecified as days goes by. Pedrosa (2012) highlighted that this factors makes an overall structural and social practice through which customers' knowledge is integrated into new service development processes remaining more widespread and broad.

In the organization of the literature reviewing chapter of this research, academic peer-reviews articles were employed. An assimilation approach was used in the literatures reviewed; it emphasis that the concepts developed in the product context can be applicable to the service context (Jin et al., 2012). The synthesis approach was also considered, according to Drejer (2004), supports the integration of relevant concepts from both service and product contexts, and is based on the fact that many of the argued
peculiarities of NSD also relate to NPD and vice versa. Important contributions in the area of service development and integration that served as a basis for other empirical contribution were made by (Alam & Perry, 2002; Nambisan, 2002). This laid a foundation to other research works done (Sandberg, 2007; Witell et al. 2011; Pedrosa, 2012) in the area of both proactive and reactive customer related integration or orientation.

However, from literatures reviewed; revealed little or no knowledge of how TSP’s (product-based-service firms) realize when to act proactively or reactively to their customers’ needs. The literatures reviewed also did not give insight on how TSP’s integrate customers during the process of idea generation, development and implementation stages of new service development. This prompted a gap to examine the proactive and reactive activities TSP’s undertake to integrate its customers, once they have identify the action they need to put into practice (proactive or reactive) in satisfying customer’s needs.

2.7 Chapter Summary

This chapter was built from the spectrum to create some understanding of TSP’s contributions in industrialization. This was then narrowed down to the topic focus of interest; proactive and reactive customer integration during the identified three (3) important stages of NSD. Most of the literature reviewed, provides a better picture of customer integration during innovation process, down to the fuzzy front end of NSD innovation and finally how customers at the identified stage of innovation are integrated. Proactive and Reactive interaction involving a company and its customers were discussed from the idea generation stage, development and implementation stages.

The focus of this study is to examine how TSP’s organize integration activities with respect to customer interaction and how customers can be integrated within the discussed three stages (idea generation, development and implementation). Literatures reviewed facilitate knowledge understanding of the topic of discussion; from the perspective of the service provider to its customers and finally proactive and reactive integration which guided the author in pursuing the research objective in the remaining parts of the empirical study. Overview of TSP’s (i.e. product-based-service firms), selection criteria, new service development process, customer roles in NSD innovation,
customer integration in NSD stages and customer interaction were discussed using inputs from past academic researches. Lastly a state of the art was drawn which highlighted areas of the literature reviewed and also recapped on the gaps found which the research was aimed to examine.
CHAPTER 3

Research Model and Questions

In relation to the topic of new service development, the literature review in the previous chapter showed that there are mainly three critical stages where customer's integration yields more value; that enables the creation of quality services and improves organizational service performance. It also showed two practices of customer integration (interaction) which are either proactively related or reactively related orientation. In this chapter a proposed research model and research questions representing the basis for this empirical investigation were presented.
3.1 Proposed Research Model

The purpose of this research is to empirically examine the proactive and reactive activities TSP’s (product-based service firms) undertake to integrate its customers during the identified three (3) important stages of new service development process. From the previous chapters, it was reviewed that proactive and reactive integration of customers during NSD practice (*co-creation activities*) improves service performance which provide substantial value to the customer and boost customer loyalty (Vargo & Lusch, 2004; Michel et al., 2008; Witell et al., 2011). The proposed research model for this study is illustrated below:

![Proposed Research Model](image)

*Figure 3: Proposed Conception Model of the Research*

The proposed research model show a linkage demonstrating that a company’s customer integration during new service development can be proactively or reactively related at three stages. Hence it will be academic and practical relevant to know how TSP’s proactive or reactive integrate with their customer when developing new service.

3.2 Research Questions

- **RQ1**: How do Tangible Service Providers (TSP's) ascertain when to act proactively or reactively towards identifying customer's needs?
- **RQ2**: How do TSP’s proactively integrate customer’s needs during the process of new service development?
- **RQ3:** How do TSP's reactively integrate customers during the process of new service development?

### 3.3 Chapter Summary

In this chapter a research model was developed from the literatures reviewed in chapter two. From the created conceptual model, three (3) research questions were developed. These questions make possible for preceding investigation and thus allowing the purpose of the study to be methodically followed up.
CHAPTER 4

Research Methodology

This chapter lays emphasis to support and justifies the chosen approaches in this present study. A discussion about inductive and deductive research and why a qualitative approach is more suitable for the research are underlined. Proceeding in this chapter is a description of the method used to collect data, a presentation of the case organizations and respondents as well as a discussion regarding the appropriate method for the data analysis.
4.1 Research Approach

4.1.1 Inductive vs. Deductive Research

In today's studies consists of two idealistic approaches in research methodology, these are the inductive and the deductive approach. The inductive approach is a way of presenting conclusions and designing new theoretical frameworks from obtained data (Bryman & Bell, 2007). Gray (2009) highlighted that inductive approach moves from incomplete details to a connected view of a state of affairs. The deductive approach refers to the act of using already theories in existence which lay ground for construction of hypotheses or for research questions to be tested by the use of empirical data collected (Bryman & Bell, 2007). The deductive approach corresponds to the most common approach to use as it explains the relationship between theory and research (Bryman & Bell, 2007; Dhawan, 2010).

In view of the about statements, this present research study will consist of entirely deductive approach. The deductive approach enables the fulfillment of this research purpose since the literature reviewed and questions were derived using existing theories from previous researches. Deductive approach also requires that the author have the possibility of a deep discussion with potential respondents who are actively engaged in integration processes in their companies. Hence, this will aid the author to be able to get the views of respondents and ask follow up questions where essential.

4.1.2 Qualitative vs. Quantitative Research

Recent studies have shown that quantitative and qualitative research approaches is undoubtedly the best approaches in which an academic research can be carried out. According to Bryman and Bell (2007), the two approaches classify the different methodologies within business science.

Qualitative research emphasizes words rather than quantification during compilation and analysis of data (Bryman & Bell, 2007). Qualitative research stresses on the understanding of the words rather than numbers and seeks to answer question involving “why” and “how” (Kent, 2007). During a qualitative research the information is
obtained and analyzed using argumentation and does not include statistical procedures or quantifications (Hussey & Hussey, 1997). Qualitative research is less formalized, describes complicated situations and strives to gain a deeper understanding of the studied problem and conclusions are based on opinions, attitudes, beliefs and interpretation (Bryman & Bell, 2007). The main emphasis in qualitative research lies within the understanding of the social reality and puts focus on words when collecting and analyzing the data which was obtained verbally (Ibid). Brahma (2009) recommended that from the viewpoint of managing a companies or organizations, qualitative research is very important as it is descriptive and contained in-depth information of the studies phenomena. There are many ways for conducting a qualitative study, such as participant observation, focus groups, conversation analysis or data mining (Bryman & Bell, 2007).

Quantitative research strategy can be seen as emphasizing a quantification of analyzed data in forms of numbers or statistics (Bryman & Bell, 2007). Results in a quantitative research are assumed to be measurable and presentable in the form of numbers, figure and statistics, which helps in making a generalization based on the processed outcome of the investigation (Ibid). It is a formalized, structured, and controlled research technique whereby few variables are studied, but on a large number of entities (Denzin & Lincoln, 2005; Hussey & Hussey, 1997). Researcher using a quantitative method of research is required to gather numerical data that can be studied in a less biased statistical way. The main advantage of quantitative research is ability to count gathered data and to implement some statistical models (Ibid). According to Hussey and Hussey (1997), the quantitative research approach has its physiognomies and focuses on measuring a phenomenon. Most quantitative research uses questionnaires or surveys as the method of data collection and this very often consist of the numerical data analysis (Partington, 2002). Below is a table that compares quantitative and qualitative research methods.
Table 3: Comparing of Quantitative and Qualitative Research

Source: (Bryman & Bell, 2007)

This present study is designed aiming to increase and expand insightful understanding of a certain phenomenon through respondents. Taking into consideration of the definitions from the methodological literatures and the above table illustrations, a qualitative research approach is found to be the most appropriate one for this study. Qualitative will assist the author to get deeper insight into respondents and dig up underlying phenomenon. This enables the author to make a meaningful conclusions based on opinions.
and interpretation of the processed information. Thus this thereby makes certain that the author rules out any statistical generalizations of the case study.

4.2 Research Design

According to Bryman and Bell (2007), the research design enables the researcher to make the accurate design in accordance to a current research topic and aim. Yin (2009) highlighted that the design form is much more than a description of the work to be done; as it aids in making sure that the empirical data obtained during the entire study can create a possibility in the answering of questions used in conducting a research study. A research design can take place in three (3) forms; descriptive, exploratory and explanatory (Robson, 2002).

A descriptive research methodology focal point is about finding facts about a subject under interest of importance or concentration. It is helpful in collecting and assessing opinions, features and behaviours of a population sample or for investigation about the degree of the sample’s affairs. Descriptive research designs answers the questions in the form of who, what, when, where and how. When conducting a descriptive research, researchers need to unambiguously describe what he or she is measuring and what population sample under the study of investigation (Dhawan, 2010). From a literal point of view, one can understand that a descriptive form of research method brings respondents and researcher together into discussion about the particular subject of interest (Ibid).

According to Phopalia, (2010), an exploratory research design is a research design where the major emphasis is to observe what is already in existence. In making an exploratory research practical, the research initiative has to be flexible in order to make possible in observing all of the various facets in use, becoming visible (Ibid). Exploratory research design helps in achieving new insight or knowledge about an unfamiliar process or practice (Dhawan, 2010).

Explanatory research design enables in giving a clarification version for descriptive information, clearing up 'why' something is in the current state. According to Gray
(2009), in an explanatory research, the focal point is purposely on ascertaining underlying relationships involving diverse pre-established variables.

In observation of the various definitions above, a descriptive research design stands to be the most suitable choice for this academic study, since the purpose of this present study aims to expand the understanding about specific facts; TSP's customer integration processes, hence exploratory and explanatory are hereby ruled out.

4.3 Data Sources

Data sources for an empirical study can be gathered from two sources, i.e. by means of using previous data in existence (secondary) or induced (primary) data. According to Bryman and Bell (2007), secondary data are collected for some purpose other than to help solving the problem at hand. This could be for the purpose of clarifying the problem at hand, providing alternative ways of approaching the problem, provide background information on the problem, alert researchers on possible difficulties to be stumbled upon or even providing some kind of solution to the problem (Ibid). These types of data are generated from: researchers, market analyzers or professional institutions (Bryman & Bell, 2007). Primary data on the other hand is first hand data gathered specifically for the purpose of solving the problem at hand (Bryman & Bell, 2007); it is more specific and tailored-handed in responses and answering of the research problem. Obtaining primary data could be expensive and time consuming to collect and at times may not elude any response from the sources (Ibid)

Thus, because of the qualitative nature of this current study and the need to expand our knowledge of how customers are integrated in a particular industry, secondary and primary data source will be pull together and used for this present research. Secondary data will provide a framework for understanding the problem in a general context as well as highlighting potential problem areas. The primary data on the other hand would be instrumental for answering the research questions and solving the actual problem that this thesis looks forward to investigate.
4.4 Research Strategy

An appropriate and well-constructed research strategy enables a researcher in the progression when collecting important data and gives room for a suitable answering of the research questions. According to Yin (2009), there are three main conditions helping to evaluate what kind of strategy is most suitable for a study, these conditions are:

1. Form of research questions
2. Requires control of behavioural events
3. Focus on contemporary events.

These conditions in the model are associated to five different research strategies; experiment, survey, archival analysis, history and case study. These are illustrated in the table below:

<table>
<thead>
<tr>
<th>METHOD</th>
<th>Form of research Question</th>
<th>Requires control over behavioural events?</th>
<th>Focuses on contemporary events?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiment</td>
<td>How, Why?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Survey</td>
<td>Who, What, Where, How many, How much?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Archival Analysis</td>
<td>Who, What, Where, How many, How much?</td>
<td>No</td>
<td>Yes/No</td>
</tr>
<tr>
<td>History</td>
<td>How, Why?</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Case Study</td>
<td>How, Why?</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Table 4: Relevant situations for different research strategies  
Source: (Yin, 2009 p.8)*

This research paper focuses on identifying underlying activities TSP’s engage in during customer’s integration. The research questions also seek to obtain deep understandings of the present circumstances which require an extensive and in-depth description of present phenomenon and subjective interpretation. Thus, these circumstances make case study more relevant for this study (Yin, 2009).

There are two different types of case study; where the research is limited to a single organization it is an embedded single case study while if two or more organizations are under study, it is called multiple embedded case study (Yin, 2009). Case study can be
descriptive or exploratory and most frequently deductive, this type of research strategy is convenient in business studies where by the underlying phenomena more frequently are hard to measure because of lots of variables which cannot be quantified (Ibid). Ghauri and Grønhaug (2005) emphasized that some methods in business studies are sometimes complicated or even impossible to observe from an external point of view; hence this makes case study the most appropriate method when making an in-depth description. This influences an author to study several phenomena, thus helps in the creation of an insightful and reflective understanding about a particular trend, topic, or subject. Therefore for this present study which is aim at creating an insightful and better understanding about TSP’s customer integration, a multiple case study was considered suitable in the research. The case study of this present research is solely focused on the PBS (product-based service) firms in the Småland region of Sweden.

*Case study was chosen because it allows holistic understanding of multifaceted phenomena that cannot be easily separated from their organizational context (Yin, 1981; Pihlanto, 1994). Case study enables researcher(s) to study different facets of a chosen case by examining them in relation to one another, and consider the phenomenon within its environment (Yin, 1989). Case study enables the usage of data triangulation, which helps the researcher(s) or an investigator to achieve holistic understanding of the phenomenon (Ghauri, 2004; Yin, 1989). Eisenhardt (1989, p. 534) highlighted that case study “focuses on understanding the dynamics present within single settings.” According to McGrath (1982), the case study method maximizes the realism of the context at the expense of precision and generalizability.*

4.5 Data Collection Method

Data collection method during a research work is an important determinant factor that highlights credibility of the conducted study. According to various researchers (Ghauri & Grønhaug, 2005; Bryman & Bell, 2007; Yin, 2009) there are five methods applicable to different types of research studies: interviews, focus groups, observations, surveys, and content analyses. Surveys, structured interviews, structured observations and content analysis are mainly used when collecting data for studies with a quantitative approach (Bryman & Bell, 2007). When conducting qualitative studies; focus groups, in-depth
interviews (unstructured/semi-structured), consultation and participating observations (ethnography) are the most appropriate methods suitable (Kent, 2007; Bryman & Bell, 2007).

As this present research in which a qualitative approach is chosen, in-depth interviews which are one of the main sources of primary data will be utilized. This data collection technique is chosen because of the high possibility to provide intensive, detailed, insightful and valuable information. Through in-depth interviews, an author will be able to obtain vital information directly from the chosen firms for the research. Interviews are the mostly reliable research source in order to obtain information for the study (Bryman & Bell, 2007; Yin, 2009); in addition, it gives the study new and indefinite information that would be impossible to get through other sources such as videos, books, journals, and annual reports (Ibid).

4.5.1 Types of Interviews

Bryman and Bell (2007) highlighted that carrying out of interviews is the most widely used method in a qualitative research. In-depth interview today, is one of the main techniques of qualitative research and it is often expressed as a conversation with a purpose and intent (Ritchie & Lewis, 2003). According to Neergaard and Ulhøi (2007) interview is a sequence of questions being asked by an interviewer and a series of responses to the questions from the interviewees. Interviews can be conducted either face to face (in person) or by telephone.

The later have an advantage in the sense that the interviewer does not discomfort the respondents with his or her personal characteristics such as sex, physical appearance, professional position or background. But also has a limitation lacking credibility when in mostly situation, the respondents are not so in detailed as to compare meeting them in person (Ibid). In most situations an interviewer has no control over the respondent’s body language or facial expressions during the interview and restricts the interviewer from showing the respondent pictures or diagrams which can help stress some underlying facts crucial to the subject of discussion (Bryman & Bell, 2007).
The former is more credible in situation when the respondents are in close geographical location as the interviewer, thus this helps in increasing credibility and reliability of the primary data (Bryman & Bell, 2007). It also enables an interviewer to have control over the respondent’s body language or facial expressions during the interview and gives room for the interviewer to showing the respondents pictures or diagrams which can help out in stressing some underlying facts crucial to the subject of discussion (Ibid). This also comes with disadvantage in the sense that the interviewer can make the respondents uncomfortable with his or her personal characteristics such as sex, physical appearance, professional position or background. Researchers (Neergaard & Ulhøi, 2007; Bryman, 2008) have highlighted three types of interviews; structured, semi-structured and unstructured interview.

**Structured interview** is mostly used for quantitative research because it allows the researcher to put data in systematical and statistical structure. Such interviews give the interviewer the chance to conduct interview within a short period of time with a large number of respondents. The interview can be spread throughout a wide geographical region which does not require huge resources in training of interviewers (Bryman & Bell, 2007).

**Semi-structured interview** are mostly used when conducting qualitative research. The interview gives more access to required information by asking questions that could appear during the conversation. Interviews are more like conversations with some possible direction or focus. According to Bryman and Bell (2007), researchers are be able to carry out semi-structured qualitative interviews which tend to be flexible and concerns more about issues that surfaces during the interview.

**Unstructured interview** is just a brief set of prompts for the respondent to deal with topic. It can be a single or multiple questions asked leading to a particular direction, after that respondent can answer in a convenient manner he or she chooses (Bryman, 2008).

_in view of the above definition of interview structures, in-depth semi-structured “face to face” interview is the most appropriate structure of interview chosen for the study. This is because it provides the author with guidelines and allows more relevant questions_
connected to the focus of discussion to be addressed. Additional as stated in the research delimitation, the author of this paper is located in the Småland region of Sweden, which enables getting in touch with potential respondents. Thus this adds more to the credibility and reliability of the primary data collected (Bryman & Bell, 2007). Hence all necessary materials that could be useful for the interview and are significantly important for this research were included in the appendix section.

4.6 Data Collection Instrument

4.6.1 Operationalization

Operationalization means turning specific concepts from theory into logical variables consisting of specific observation (Ghauri & Grønhaug, 2005; Kent, 2007) and according to Bryman and Bell (2007); it is the process of taking a research to the real word. Operationalized concepts originate from the theoretical framework and should be substantial for the purpose and research questions. Thus, when the concepts are translated into words they can be used in surveys or serves as an interview guide (Ibid). From the literature reviewed phase of this paper, research questions were formulated from the proposed model to be used for the interviews; which serves as the primary source for the collection of empirical data needed for this study. Therefore in this operationalization, there is a linkage between literature reviewed with the proposed model and is represented below:

<table>
<thead>
<tr>
<th>CONCEPTS</th>
<th>CONCEPTUAL DEFINITION</th>
<th>OPERATIONAL DEFINITION</th>
<th>MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firms Proactiveness during NSD Stages</td>
<td>Proactive techniques capture a wider range of customer information and identifies latent customer needs (Johnson, 1998; Narver et al., 2004)</td>
<td>A measure that reflects the proactive activities firms undertake when capturing the underlying and unspoken customer's needs.</td>
<td>Opportunities (Sandberg, 2007)</td>
</tr>
<tr>
<td>Development (Crawford &amp; Benedetto, 2008)</td>
<td></td>
<td></td>
<td>Anticipation (Sandberg, 2007)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Influence (Sandberg, 2007)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Knowledge Sharing (Johannessen et al., 1999)</td>
</tr>
</tbody>
</table>
| Implementation (Gilmore, 2007) | Reactive techniques, companies give attention to understanding, responding and satisfying the articulated (expressed) customer needs (Johnson, 1998; Narver et al., 2004) | A measure that reflects the reactive activities firms undertake when fulfilling the expressed (spoken) needs of customers. | Attention (Slater & Narver, 1998)  
Satisfaction (Johnson, 1998) |
|---|---|---|---|
| Firms Reactiveness during NSD Stages  
Response (Sandberg, 2007)  
Co-operation (Nambisan, 2002; Witell et al., 2011)  
Support (Pedrosa, 2012)  
Relationship (Johnson, 1998)  
Satisfaction (Johnson, 1998) |
| *Development* (Alam, 2006) | | | |
| *Implementation* (Gilmore, 2007) | | | |

**Table 5: Research Operationalization**

### 4.6.2 Interview Guide

An interview guide of a research study is where the topics and questions to be used during an interview conversation are specified, it also demonstrate the order in which questions are intended to be dealt with during the interview. According to Bryman and Bell (2007), interview guide can either be illustrated in general terms or comprise of integral formulated questions, which guides a researcher and enhances consistency of the data in order to make sure that all the relevant issues are addressed accordingly during the interview. Interview guide creates room for a research to have an adequate flexibility when interviewing respondents (Ritchie & Lewis, 2003).

The author of this paper was able to obtain an e-mailed qualitative interview guide from one of the authors (Sandberg, 2007) whose exploratory research prompted a gap, in which this paper is intended to be filled up. Birgitta Sandberg's interview guide served as a guide to this current research and enabled the using of relevant criteria and definition from the operationalization to address the current issues why this study is
originated. The guide included the current aspects of the topic which the individual question aims to address and also giving guidance to eventual inquisitive questions. This type of interview guide was regarded the most appropriate in order to collect the data needed for this study. See appendix (A) for this paper's interview guide.

4.6.3 Pre-testing

Pretesting of the current technique is said to a good credible way of preparation of the actual data collection (Ghauri & Grønhaug, 2005; Yin, 2009). Through the procedure, the researcher figures out if the questions are comprehensible, complicated or sensitive in its current state (Ibid); thus this can significantly contribute to the interview guide being refined and paves way for the proceeding data collection (Ibid). Bryman and Bell (2007) highlighted that a pretest of an interview guide can be carried out by involving individuals with special knowledge of the topic of discussion or in general by discussing with variety of different people whose area of expertise are likely to be considerably different.

In this research, the interview guide was pretested with academic experts, a market manager and resourceful study colleagues who have practical knowledge in the area of service or product development. The interview guide was then sent to the respondents in order to allow them study the questions prior to the interview. By pre-testing the interview guide, it helped repair the irregularities in questions, therefore re-established reliability and trustworthiness to the guided questions.

4.6.4 Data Collection Procedure

Bryman and Bell (2007) highlighted the method through which a research data is collected is crucial and give more trustworthiness or in other terms unreliability to the data collected during a research study. The public sources such as the company's websites were utilized as secondary sources; these facilitate the combination of various data-collection methods, whereas interviews (primary data) presented depth and personal feeling which provides factual information (Forster, 1994; Pettigrew, 1990). Public sources were considered important in identifying the key persons involved in
service development process, thus this enabled the author in identifying potential interviewees.

The interviewees were first contacted both by email and phone; the research project was briefly described to them. Upon their agreeing to participate in the study, a date was fixed in order to conduct the interview. All the interviews were conducted in the chosen firms’ premises, either in the office or a place the interviewee chose to be comfortable with. The interview questions were of an open-ended, which allowed respondents to convey their answers using their own words. The interviews lasted from ½ hour to 1hr, were recorded through the use of mobile phone, transcribed and passages were categorized into to similar NSD subthemes before the information from different respondents was compared and regrouped, following a systematic combining process (Dubois and Gadde, 2002).

*The interviews were conducted between 2013-4-1 and 2013-4-19, the respondents were mainly service managers; marketing director, R&D managers, project managers and application/technical managers. The interview-guide which was sent in advance to the respondents also gave the respondents an alternative to choose to be anonymous if compelled to.*

**4.7 Sampling**

When conducting qualitative case study, a combination of purposive, non-probability sample methods are frequently utilized as a multiple case sampling (Gray, 2009). Purposive sampling means that a case is chosen because it has certain characteristics or features that facilitate understanding of the themes centered to the particular study at hand (Ritchie and Lewis, 2003). This study, being a multiple case study, will consequently use multiple case sampling. By using a multiple case approach, more vigorous results are possibly obtained than the use of a single case study (Eisenhardt, 1989; Yin, 2009). Therefore, researchers are recommended before embarking on case studies should probably target the cases (companies) that are expected to contribute rich data to the overall study (Miles and Huberman, 1994). Such case selection and
sampling strategy should also center on carefully selecting units or persons well suited for the current in-depth descriptive study (Ibid).

4.7.1 Sampling frame

According to Gray (2009), when using a multiple case sample, a researcher needs to have a clear and explicit sampling framework which helps in guiding and making sure that all cases sample are related to the issues under investigation in the study. Organizations that met the criteria of the sample frame were identified with the help of websites (eniro.se, foretagfakta.se elmia.se and gotechgroup.nu) where most service providers (in Sweden), industrial partners’ locations and their type of activities, contacts and addresses are either listed or advertised.

4.7.2 Sample Selection

According to Bryman and Bell (2007), qualitative samples are usually small in size due to the need to deeply dig into the underlying facts and values which does not require the use of statistical representation. Additional, due to the huge data that will be obtained in the process of investigation which needs to be well detailed during the analyses phase, large samples in situation whereby timeliness is demanded in the overall procedures is therefore discouraged (Ibid). Sample size of the within a qualitative study carrying out in-depth interviews needs to be kept small in order to help the researcher able to thoroughly focus on the issues at hand, as it have been noticed that large sample sizes in a qualitative study can lead to lose of research focus due the in-depth requirements (Ibid). Therefore Miles and Huberman (1994) suggested that number of cases in a multiple case study sample selection should consistently not to be too large but rather minimum in order to be effectively managed and controlled.

Selecting the appropriate samples or organizations to work with in qualitative case study is a process of extensive thinking, deliberation and consideration whether potential respondents crucial to the topic of discussion are willing to be interviewed. With the help of some websites as earlier mentioned, the researcher of this paper was able to select potential large samples size of companies located in the Småland region of Sweden. The samples were then reduced to a manageable number four (4) companies
which depended on resourceful respondent’s acceptance or availability to participate in the study. Sample criteria were developed and are explained in the Table 6.

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>EXPLANATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Criteria for selected companies</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Innovation</strong></td>
<td>The basic criterion of the study was service-contractors (TSP’s) who are actively involved in innovations, have tangible service offerings, are proactive and reactive orientated towards and with customers in the process of new service development.</td>
</tr>
<tr>
<td><strong>Customer Integration</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Tangible Service</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Criteria for selected respondents</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Participation in NSD process at the company</strong></td>
<td>The most important criteria is the experience of respondent in the process of NSD, can provide valuable inputs for the research study.</td>
</tr>
<tr>
<td><strong>Fluency in English</strong></td>
<td>This criterion is based on the author’s language skill and the language of the current research and interview guide. This was also important in order to avoid loss in transcribing from Swedish to English Language.</td>
</tr>
</tbody>
</table>

**Table 6:** Criteria for Selection of Companies (Cases) and Respondents

Lastly, the global company Dun & Bradstreet makes a credit assessment of Swedish companies; it was noticed from the company’s websites that three (3) of the companies involved in this research were companies that received the highest credit ratings – AAA (2013). For more information about the cases (companies) and respondents who participated in this study, see appendix B and C.

### 4.8 Data Analysis Method

According to Coffey and Atkinson (1996), the principle of qualitative research is that data analyses must be carried out concurrently with data collection within a short period of time; this allows the researcher to progressively arrange his/her data obtained in order to attain a meaning conclusion. Miles and Huberman (1994) highlighted that when conducting an analysis in a qualitative case study, the most suitable methods are: - data reduction, data display and drawing conclusion.
**Data Reduction:** The process involves; focusing, simplifying, abstracting and transforming the data. It is a continuing process of the analysis which sharpens sort, focuses, discards and organizes data in a way that closing conclusions can be drawn and established.

**Data Display:** in this situation, data is demonstrated in an organized and compressed by the use of extended text, which also applies matrices, graphs, charts and networks in order to display the data in a compacted structure.

**Drawing Conclusion:** The process of noting for example patterns, regularities and causal flows. This is done in order to enable the research decide why things are really the way they are in the current state.

*This current research will employ data reduction as its method of data analyses. Ritchie and Lewis (2003) suggested in order for a researcher be able to reduce data collected, that text should be tagged (operationalized) according to some form of index. This helps in the detection of potential data to lookout for and also enables to sort out data in accordance with theoretical constructs. The transcribed interviews was comprehensively read with the help of the operationlization, which offered a connection between the data collected and the literatures reviewed (Ibid).*

**4.9 Quality Criteria**

The quality of any research study can be measured by the concepts of validity and reliability. According to Yin (2009), these two concepts are derivative from natural science and are intended to define the level of strengths and credibility a research. Bryman and Bell (2007), highlighted that validity measures the degree of which the study investigates what it intends to investigate, while reliability refers to the stability of the measurement instrument. Silverman (2005) stated that both in qualitative and quantitative research studies, the findings need to be done with reliable and validated sources or information in order to have credibility. Content, Construct, External Validity and Reliability are used in this qualitative research and are presented in order to ensure the quality criteria of the research.
4.9.1 Content Validity

According to Bryman and Bell (2007), content validity in a qualitative study is also known as face validity. This refers to how well measurement construct’s component actually represent that construct. One way to conduct a content validity in a qualitative study is to let persons (experts or potential respondents) with knowledge about the subject review the interview guide before data collection takes place (Ghauri & Grønhaug, 2005; Yin, 2009).

This paper seeks to better connect the theoretical framework to the empirical data collected. The author considered that the companies selected for this research are relevant for the study and will contribute to a higher validity because it possesses the necessary characteristic needed to obtain quality data worthy to certify this research. Therefore in order to ensure content validity of this research not to risk being questioned about the content (face) validity, the operationalization scheme and interview guide with interview questions was sent to an expert in the field of business research. The author believes that feedback and critique can help to raise the quality of the interview questions and the face validity of this research.

4.9.2 Construct validity

Construct validity in a qualitative research can be assessed by the use of multiple of evidence (triangulation), establishing chain of evidence by the means of proper referencing, recoding interviews and also saving of original transcript used in the study (Bryman & Bell, 2007). According to Ghauri and Grønhaug (2005), construct validity is a significant factor when conducting consequential and interpretive research findings and can be evaluated through several means, as stated above.

By the course of extensive participation in depth interviews; the author of this paper was able to collect qualitative data for the study. Qualitative data are rich data that are detailed and varied satisfactorily to provide a complete and revealing of occurrences in an empirical study (Cobin and Strauss, 2007). Hence, since the qualitative research was done through face-face interviews, the data would also require verbatim transcripts of the interviews, not just notes. Transcribing of empirical data collected would help to
ascertain construct validity of this study. Additionally, all interviews were recorded to give the authors the possibility to go back and listen to the answered during data transcription and analyzing. All these procedures are channeled in order to ensure construct validity and evade questions of reliability to the final conclusion of this research.

4.9.3 External Validity

External validity refers the establishment of a domain to which a study findings can be generalized (Yin, 2009). Bryman and Bell (2007) highlighted that it is the extent to which findings of a study can be applied to other situations. According to Merriam (1995), qualitative researchers rarely select random samples as in the case of quantitative study which helps in study generalization to the population from which the sample was selected; hence it is difficult to statistically generalize findings in a qualitative research. Ritchie and Lewis (2003), findings generalization is not the goal of a qualitative research, hence finding generalization is not the objective of this qualitative study.

However, participants’ feedback would be taken carefully as evidence regarding the validity of the specific case under study and helped in identifying patterns. Therefore, the use of multiple cases and the cross-case analysis of the empirical data that was carried out in this study and serve as actors strengthening the external validity of this research finding. With the use of relevant literatures and research design as planned, this study will hold a high external validity.

4.9.4 Reliability

Reliability according to Yin (2009), talks about the degree to which another researcher can repeat a particular study from beginning again by the same means as previous study and the result would still be the same. This research is a qualitative study, thus the findings are stated based on the author’s interpretations of values and patterns. Hence if a new researcher is to repeat this study, a different interpretation could be made. Therefore in order to maximize the reliability of this study, presentation of detailed account of methodologies with all process description was documented fully. Additional
full transcription of interviews was made available in addition to the interview guide in the appendix. This will help in guiding any future research as to regards to the same topic.

4.10 Chapter Summary

The table below shows the methodology used in writing and conducting this paper’s research. It is also important to be aware that the referencing patterns used in the entire paper were in accordance with Harvard reference system.

<table>
<thead>
<tr>
<th>Research Methodology Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Research Approach</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Research Design</strong></td>
</tr>
<tr>
<td><strong>Data Sources</strong></td>
</tr>
<tr>
<td><strong>Research Strategy</strong></td>
</tr>
<tr>
<td><strong>Data Collection Method</strong></td>
</tr>
<tr>
<td><strong>Data Collection Instrument</strong></td>
</tr>
<tr>
<td><strong>Sampling</strong></td>
</tr>
<tr>
<td><strong>Data Analyses Method</strong></td>
</tr>
<tr>
<td><strong>Quality Criteria</strong></td>
</tr>
</tbody>
</table>

*Table 7: Research Methodology Summary*
CHAPTER 5

Empirical Data Presentation

In this chapter, the empirical data gathered from the four cases were presented. The companies investigated are briefly introduced and was followed by a presentation of the data for each case. It was presented in accordance with the study’s conception framework, which focuses on proactive and reactive activities in the three (3) stages of NSD (i.e. idea generation, development and implementation stages).
This study was a descriptive research with the aim of studying a multifaceted context-bound contemporary process; tangible service providers (PBS) integration of their customers which is very fundamental for the companies in developing new services today. Based on the multilayered activities of TSP’s, case study approach was deemed to be an appropriate research strategy (Yin, 2009). Empirical data were gathered using multiple case study, by using a multiple case approach; more vigorous results are possible than with a single case study (Eisenhardt, 1989; Yin, 2009). The research was empirically grounded with an aim to discover emerging patterns and practices (Meredith, 1989).

The empirical data came from four (4) market-leading manufacturing companies of Swedish origins that have their headquarters in Småland region of Sweden. The case companies are large international companies that also have a traditional focus on product-base services, innovation and new product development. All companies involved in this research, have a number of service offerings currently in their various markets and are actively involved in communication with customers. The table below is a summary of the cases field of expertise, type of services and some general information.

<table>
<thead>
<tr>
<th>(TSP’s)</th>
<th>Field of Expertise</th>
<th>Type of Service (PBS)</th>
<th>Other Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1</td>
<td>- Air-handling units that save energy.</td>
<td>- Specialty mainly in the Air Conditioning Industry.</td>
<td>Workforce: 181 employees</td>
</tr>
<tr>
<td>IV Produkt</td>
<td>- ECO energy optimizing coolers</td>
<td>- Customers: Corporate Organizations, Industries, Government &amp; Social Org., Property Developers, etc.</td>
<td>Turnover: 44 Million Euros (2011)</td>
</tr>
<tr>
<td></td>
<td>- ECO heaters recovery units</td>
<td>- For more info on case one, visit - ivprodukt.se</td>
<td>Founded: 1969</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ownership: IV Produkt Holding AB</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Export Share: 25 %</td>
</tr>
<tr>
<td>MicroPower</td>
<td></td>
<td></td>
<td>Parent company: MicroPower Invest AB</td>
</tr>
</tbody>
</table>
### Case 3: BALCO

- Open and Glazed balcony.
- Winter-garden, Sunspace
- Balcony Enclosure
- Glazed Aluminium System


**Customers:** Corporate Organizations, Public and Private Investments, Property Developers, OEM's etc.

*For more info on case three, visit [balco.se]*

**Workforce:** 160 employees

The company is 55% Solvency and has agents in several countries.

**Sales of around:** 580 Million SEK (2009/2010)

### Case 4: ARCOMA

- Digital radiography systems
- Digital detectors
- TFT-based fixed
- Tethered and wireless solutions
- Stands, tables and positioning devices
- Full featured

- Specialty mainly in the Medical and Hi-Tech Equipment Industry.

**Customers:** Hospitals, Medical Equipment Dealers and OEM's.

*For more info on case four, visit [arcoma-imix.com]*

**Workforce:** 55 employees

**Arcoma-IMIX** integrates, test, markets and service complete radiography systems under the IMIX brand.

**Sales of around:** 200 Million SEK (2010)
acquisition and image processing software
- Generators and Overhead tube crane.

<table>
<thead>
<tr>
<th>Table 8: Description of Cases and their Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>- For more information about the cases respondents and companies innovative services (PBS), see Appendix B &amp; C.</td>
</tr>
</tbody>
</table>

All the cases investigated are active members of Swedish Standard Institution (SIS), which obliges all its members to implement quality management systems requirements according to international standard enacted by International Standard Organization (ISO); ISO 9001:2008 and ISO 14001:2004.

ISO 9001 is part of a series of standards for quality management systems. It may help to bring out the best in your organization by enabling you to understand your processes for delivering your products and services to your customers (sis.se)”. ISO 9001 sets the standard not only for quality management systems, but management systems in general (sis.se). It helps all kinds of organizations to succeed through improved customer satisfaction, dedicated staff, and continuous improvement. ISO 9001 helps you to effectively manage your business and meet your customers’ demands. ISO 9001 defines the requirements for a quality management system where an organization:

- Needs to demonstrate its ability to always provide product that meets customer and regulatory requirements.

- To enhance customer satisfaction through the effective application of the system. This is done by means of processes to continuously improve the system and to ensure that the products meet the specified requirements.

The benefits of ISO 9001 according to SIS are:

- Engages management
- Improves business performance and manages business risk
- Saves money
• Streamlines operations and reduces waste
• Encourages internal communication and raises morale
• Increases customer satisfaction
• Attracts investment, enhances brand and removes barriers (sis.se).

ISO 14001 Environmental management systems - Requirements and guidance is aimed at all businesses and organizations regardless of their size and business focus (sis.se).

According to SIS, an active environmental program provides many benefits. Firstly, business in terms of reduced use of resources and lower costs for waste disposal, but also for our shared environment. A vibrant and well integrated environmental management system also provides:

• Increased process efficiency
• Reduced use of resources and materials per delivered benefits
• Reduced waste production per delivered benefit and hence reduced costs for waste
• Increased share of renewable resources and systems
• Increased goodwill and increased credibility for the organization's environmental performance (sis.se).

ISO 14001 standard aims to continuously reduce the total environmental impact. Using standard may lead good control of environmental progress of the work in terms of both performance and cost (sis.se).
5.1 Case One: IV PRODUKT AB

IV Produkt is considered by many as one of the leading producers in the Nordic countries of cost efficient and environment-friendly air handling units.

“We use LCC (Life-cycle Costing: is a technique used to estimate the total cost of ownership. It allows comparative cost assessments to be made over a specific period of time, taking into account relevant economic factors both in terms of initial capital costs and future operational and asset replacement cost - ec.europa.eu) thinking through all the product development and sales. The company has high demands on cleverness when we develop new products and manufacture. All these are aimed so that we together can save energy, environment and money (ivprodukt.se)”. The head office and production is situated in the middle of Småland. The businesses are quality and environmentally certified: ISO 9001:2008 and ISO 14001:2004.

**Company Mission**

IV Product develops, manufacture and promote air-handling products that are energy efficient, environmentally friendly and tailored to meet customer’s needs.

**Sales Representatives in:** Belgium, Czech Republic, Denmark, Estonia, Finland, Latvia, Norway, Poland, Russia, Republic of Ireland, Ukraine and United Kingdom.

**Products:** Envistar, Flexomix, StarCooler, EcoCooler and FlexoPool

**Customers:** Customer are spread both in Sweden and globally in all categories ranging from swimming halls, hockey arenas, complex offices, shopping complexes, hotels, industrial premises, hospitals etc.

The table below contains a brief summary of the primary data obtained from Case (1) empirical investigation.

<table>
<thead>
<tr>
<th>Stages (Case One)</th>
<th>NSD Specific Traits and Critical Aspects</th>
<th>Proactiveness</th>
<th>Reactiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idea Generation</td>
<td>“There is no particular system that automatically develop new service idea in...”</td>
<td>The Company looks into the market regularly, reviewing old products,</td>
<td>The Company frequently engages in doing longitudinal...</td>
</tr>
<tr>
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<td>-----------------------------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Development</strong></td>
<td>the industry today, but rather they listen often to customers, attend market (business) trade-fairs, communicate with suppliers of various components to know their latest standard models before making an internal mechanical construction to adapt various new systems in its new service offering”.</td>
<td>adapts new technologies to meet up current and future markets specifications or customer needs.</td>
<td>studies about its existing services, constantly listening and working closely with customers through continuous communication with the company's marketers &amp; sales representatives.</td>
</tr>
<tr>
<td><strong>Implementation</strong></td>
<td>“The Company has a huge workforce and also has an R&amp;D department where by developers interacts constantly with some chosen departments (e.g. marketing dept.) and experience managers (CEO, Production/HR-&amp; Quality/Environmental Manager, and Technical Manager), external suppliers. Value creation must cover general acceptance by its numerous customers globally”.</td>
<td>The Company works within its capacity by documentation of all the component, materials, and cost for offering any particular product. Diagrams are created using software which all aids mechanical constructions.</td>
<td>The Company works closely with customers mostly through its marketing departments and export representatives. The firm acknowledges marketers are the ones closer to customer; as they are oblige to transmit feedback simultaneously to the firm headquarter”.</td>
</tr>
<tr>
<td><strong>Implementation</strong></td>
<td>“Customers are they the purpose why they exist, as the company does not offer service to its self but rather to customers, and if customers are satisfy they are happy too. The Company always has no objective to implement a single customer needs, but looks at integrating by reacting to the</td>
<td>The Company works within by involving key persons in co-ordination with it technical department and external by interacting with key suppliers of components, in order to obtain exact specifications.</td>
<td>IV-Produkt have a department that is responsible for reviewing its new services carefully most internally before delivery. Further reviewing is done occasional through customer permission at the installed service site</td>
</tr>
</tbody>
</table>
total customers expressed need at large in order to create general satisfaction and bring on cost”. or customer’s business premises.

| Table 9: A summarized presentation of case (1) primary data |

5.2 Case Two: **MICROPOWER AB**

Micropower is an independent manufacturer of industrial battery chargers. The head office of Micropower E.D. Marketing AB is located in Växjö in the southern part of (Småland) Sweden. The company started in 1984 and is today the market leader of battery chargers for lift truck applications in Northern Europe. The Micropower group has the great advantage of vertical integration, having control of all the major steps of the production process from winding the transformers, the production of the printed circuit boards, to the testing of the product, ready to be delivered to a customer, which are found all over the world (micropower.se). Micropower ED Marketing AB businesses are quality and environmentally certified: ISO 9001:2008 and ISO 14001:2004.

**Customer Adaptation:** “It is easy to adapt our charger program to different customers request due to the fact that we in a lot of cases store the chargers without any cover plates. These are fitted by our customer adaptation team once we have the order in hand. We also fit charging plugs, acid circulation pumps as well as program the right charging algorithm at this time (micropower.se)”.

**Sales:** Annually the Micropower group delivers more than 110,000 (hundred and ten thousand) chargers to OEM customers and retailers around the world. Micropower strives to provide a short lead time by maintaining approximately one month of production in our large warehouse located in Växjö, Sweden.

**Customers:** In recent years, Micropower’s equipment sales have grown around the world. Our main customers are lift truck manufacturers in Scandinavia and neighboring countries but we also have substantial sales in other parts of the world. In addition to lift truck OEM’s; we also supply chargers to many AGV system designers, battery
manufacturers and their dealers. The MicroPower group has become a true global supplier of battery chargers shipping equipment to a growing number of countries around the world.

**Service:** The robust design of chargers and the high degree of parts standardization simplify MicroPower’s product support. This makes it easy to support dealers and OEM customers in servicing the chargers as well as supplying spare parts with short lead time (micropower.se).


The table below contains a brief summary of the primary data obtained from Case (2) empirical investigation.

<table>
<thead>
<tr>
<th>Stages (Case Two)</th>
<th>NSD Specific Traits and Critical Aspects</th>
<th>Proactiveness</th>
<th>Reactiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idea Generation</td>
<td>The company does not have a specific system that generates new idea internally; the company depends on its networks and subsidiaries. &quot;Actually a lot of new the best ideas are generated around the coffee tables during breaks (organize coffee breaks are very important to the company), mostly marketers comes back and are sometimes frustrated and relay feedbacks from customers to others around the table. The R&amp;D dept. sits down later to map out plans to integrate those new ideas&quot;.</td>
<td>The problem is that is sometimes difficult to identify the difference between what actually customers want and what they needs. Often MicroPower communicates with sale reps, who talks to customers as customers express their want or just what they know. However, the real good development is developing want customers are not aware of but they actually need it. That are tricky ways, they are not very good in</td>
<td>In general they use the sales force to know when to act reactively, but then sales force of give you feedback about current technologies or features. Mr. Magnus Phil acknowledges the power of marketers. However, it is very crucial to have a knowledge intensive R&amp;D department and that is what they mainly rely on. As a company MicroPower, integrate customers by using their distributors around the World, but</td>
</tr>
</tbody>
</table>
"The company has product planning process (PPP), as they tend to work ahead on new product e.g. 3 to 4 years in advance. R&D, Sales persons and admin board meets to in these P.P.P. meetings and discuss on NPD. Sales forces (marketers) are then used to discuss with customers to observe if the new idea can solve their future needs”.

It is relatively traditions for the company; the company set up a development project, appoint project manager or leader, set up steering groups (sales force and managements personals), make a budget, start up with specifications of the new product attributes. These projects are different, can be 2 weeks, 2 months or 2 years; depending on the complexity of what is involved.

The company does plans relatively early in order to verify the product and see the results. Sometimes if the product is aimed to a certain market, they involve the customer (distributors) by having regular contacts with the customer in that market or sometimes when it is a special product for a related to specific customer, the company’s sales forces relay information (to & fro) with the customer.

### Development

"MicroPower has two different customers, one is the distributors and the other is the industrial users (small & large companies) because the company’s services are industrial products. They meet their customer regularly, having Skype conferences and keeping in touch on regular bases”.

“Trusted customer relationship helps raise some questions during this stage. However, the company tries as much to minimize customers’ knowledge in some certain development stages. E.g. if it sales oriented, they don’t under estimate the ability of customers to start selling the product if before it finally

sometime also meet end customers.

that to compare with Apple Inc, but they are trying by pursuing such strategy.
arrives in the market. Therefore most times during this stage, the technical department does not reveal too much to customers”.

**Implementation**

“The company during this stage, through its distributors finds an existing customer (with an existing problem) that is willing to recognize the benefit of testing the new product under development, in order to solve the problem (on both ends). In this process, customer is made aware of this prototype and reliability; as the company engineers are alert in case of any failures”.

“It is important to review new product with the customers but mainly distributors and some end customers that having being using their prototypes and feed test of their product. These practices help MicroPower build trust and product loyalty”.

The Company tries as much as possible to have an effective time schedules during a project from start up. The last thing they do in implementation stage is to integrate the marketing department; as it is recognized to be crucial to any success of the sales of any new product.

MicroPower tries to fulfill customers’ needs by listening much as possible. Customer feedback from existing products have at least a 50% impact in the company new products plan but then the company also recognize the need to integrate new technologies by developing new capabilities (internally) that the customers are not totally aware. According to Magnus Phil, this is a dynamic key to MicroPower success today.

**Table 10**: A summarized presentation of case (2) primary data
5.3 Case Three: **BALCO AB**

Balco AB was founded in 1987, 20% owned by staff, 80% owned by Segulah IV L.P, present in Sweden, Norway, Denmark, Germany, Poland and the UK. The company invests heavily in machinery and expertise and its production processes are quality and environmentally certified: ISO 9001:2008 and ISO 14001:2004.

Balco AB is amongst the leading balcony design and construction company in Scandinavia and globally. “We might as well make it clear from the start: We love balconies! Initially we had few resources, but you can go a long way on enthusiasm and hard work (balco.se)”. According to the company, they are one of the market leaders, with open and glazed balcony systems in demand right across Europe (balco.se).

**Products:** The Company’s product ranges from glazed balcony or Winter-garden, Sunspace, Balcony Enclosure. The company also specialises in Innovative-Glazed Aluminium System that provides weather protection to an external balcony area.

**Patterns:** Over the years, the company has obtained a number of exclusive patents and solutions for balconies. “We are also proud that our innovative solutions and elegant designs have helped to increase quality of life for a large number of people; in addition to around 40 patents (e.g. Balco FLEXIBLE ™, Balco CLEANLINE ®, Balco VENTECH ®, Balco REVERSIBLE ™, Balco ACCESS ® etc.) on small details which make the finished product so much better (balco.se)”.

All production takes place at the company’s modern and efficient headquarters in the Småland region of Sweden (Växjö), where they carry out all the welding, finishing of aluminium profiles, powder coating and assembly. “This means that high quality is maintained throughout production and that we also show great consideration for the environment (balco.se)”.

The table below contains a brief summary of the primary data obtained from Case (3) empirical investigation.
<table>
<thead>
<tr>
<th>Stages (Case Three)</th>
<th>NSD Specific Traits and Critical Aspects</th>
<th>Proactiveness</th>
<th>Reactiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idea Generation</td>
<td>“The Company was founded on technicality (persons), most of the new ideas are generated by the employees (salesperson, market/business manager, R&amp;D) within the company. The company makes sure that the new ideas are feasible are patent; as today the company possesses 60 patents its boost and these are the company core competences they rely on”. “The Company highly recognizes customers in this stage; as customers are vital partners in the construction industry. We try as much as possible to make sure that their idea can be reach but then the company also falls back to its numerous years of experience (25yrs) in the market in order to help cement the ideas”.</td>
<td>The Company has its product development department that designs its own product internally by reviewing previous design by looking at marketing and coming up with product customer “may need”. However when the marketing department goes out on trade or business fairs, potential customers are able to see the latest offerings the company is developing or has developed.</td>
<td>Balco identifies customer expressed need through its sales persons but then it is up to the company to make proposal to the customer. The company endeavors as within its capacity to help customers achieve their needs but then the kind of service the company offers requires technicality and customers have relative (not much) knowledge about the theories, designing or construction involved.</td>
</tr>
<tr>
<td>Development</td>
<td>“The Company does not frequently integrate customers during prototyping and testing stages but recognize that the design stage (idea generation) is where the company makes sure customers’ needs are integrated and handling</td>
<td>The company has management meetings where they discuss about possible new product design, the members in the meeting looks into the company’s competence (internally) and market needs (externally).</td>
<td>Customer’s relationship influences their decision positively, by customers saying out their needs at the early stages (mostly required) but then it is up to the company to make sure that those needs are</td>
</tr>
</tbody>
</table>
“Balco have able hands that does front & back reviews about customer's needs, the person's sits down to draw plans and strategy aim to make sure that those needs that will be beneficial to the company in the longer terms are incorporate in this stage”.

Agreements are made about the new products and instructions are given to top personnel's in the product department to pursue certain type of projects.

The Company always have regular meeting with all sales person, market managers and product managers. At such frequent meetings, market managers show the new products to sales persons, while most times sales persons bring up new ideas which product managers in respective market convey back to the product development department to see to those ideas. At a later period, information is passed to the sales persons to inform them about possible outcomes.

The company stands in honesty to customers in order to build its brand name. Customer spoken needs have helped the company grow but most vitally is having the will to listening to customers as it is important for Balco AB, and this is part of the success story today. Balco AB have a system base run by a firm, their activities are to make follow ups when services are delivered. They ask as much as possible to obtain information from the customer on what they think about the new service.

**Table 11:** A summarized presentation of case (3) primary data
5.4 Case Four: *ARCOMA - IMIX AB*

Acroma-IMIX DR solutions are at the intersection of technology, functionality and design. Acroma-IMIX combines ergonomic Scandinavian design with leading edge digital imaging technology to deliver a complete, configurable and functional line digital radiography systems - IMIX Holding AB was formed in March 2010 by the merger of digital radiography (DR) manufacturer IMIX ADR and medical radiology systems and subsystems developer (arcoma-imix.com).

Arcoma AB-IMIX is a leader in DR technology products and solutions, is privately held and located in the Småland region of Sweden (Växjö), with its US headquarters in Charlotte, NC. With more than 40 years of combined imaging experience, the merger brought together pioneers of digital imaging technology with the industry’s most technically advanced OEM supplier of systems and subsystems to some the world’s best-known medical technology companies (arcoma-imix.com).

**Products:** “Arcoma-IMIX’s fully interoperable and configurable products include state of the art fixed, tethered and wireless flat panel detectors, as well as positioning devices, stands, tables, generators and software. By integrating multiple detector technologies with highly flexible positioning devices and full-featured software, Arcoma-IMIX addresses a broad array of clinical needs at multiple price points. The company’s DR and DR-ready systems are configured, staged, and tested in its state-of-the-art facilities to ensure quality, stability and value (arcoma-imix.com).

**Customer:** Arcoma-IMIX provides complete DR systems and subsystems under the Arcoma brand to its OEM partners and under the IMIX brand through Value Added Resellers for use in hospitals, clinics, imaging centers and private practices of all sizes. Arcoma-IMIX serves imaging customers throughout Europe, Asia, North America and Latin America (arcoma-imix.com).


The table below contains a brief summary of the primary data obtained from Case (4) empirical investigation.
<table>
<thead>
<tr>
<th>Stages (Case Four)</th>
<th>NSD Specific Traits and Critical Aspects</th>
<th>Proactiveness</th>
<th>Reactiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idea Generation</td>
<td>“The company has serial groups that co-coordinately with each other; R&amp;D department, product managers, sales representatives from different market and the CEO. They have product council meetings by looking at the present market to identify potential areas of need or improvement. Lastly the body then sets priority with some certain time frame for its R&amp;D department to initiate and build up the new ideas”.</td>
<td>The company look at sales to see if there is need to for changes, looks at competitors in the market to see what they are introducing, internet and going to product exhibitions (trade fairs) in order to keep in touch of what going on in the market and also see current trends of products in order to ascertain time to act proactively. The Company believes customer’s potential influence them to a certain degree, but them also bear in mind that customer’s ideas are most times very difficult to attain or might seems too complex. The company is a growing company and they must prioritize their objectives by taking decision on what the market requires or what they can do or ideas they believe are profitable”.</td>
<td>By having regular contacts with their customers (dealers or OEM’s), they also have meetings with sales persons at the dealer side but most important having information from the service organizations because the company also employs second-line support (partner orgs. and firms e.g. The Swedish Censor Board, Swedish Trade &amp; Invest. Commission etc); as they get lots of information from the customers’ perspectives through this means. Also as her role as a project manager, she makes frequent visit to hospitals to explore various aspects of customers’ needs in which the company finds means to create market opportunities.</td>
</tr>
<tr>
<td>Development</td>
<td>“Customer needs and lists are much which can go on to</td>
<td>The company's products contain many</td>
<td>It depends on the class of customers they deal</td>
</tr>
<tr>
<td></td>
<td>the company”</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
say, the company looks at those needs, makes its own judgments on requirements, its gains and what are the implication if they don’t capture those needs (e.g. drop in sales) before the company determines whether to pursue those spoken needs or not. The company also has its basic products and has options to customers (dealers or OEM’s) when they require an explicit specifications or products”.

“The company creates less expensive prototypes to bring down cost and also ensure all specifications and forms are in the correct requirements. The company also sends 3D pictures and drawings to the customers if related to a specific project. The company only does it prototype testing internally and rarely involve customers in the process, this is because the industry the company is involved does not encourage customer’s engagements in prototype testing”.

Inputs (mechanical, electrical, software, quality regulation etc.). The company sets up a well-defined project team to work on the systems requirement, specifications and they endeavor to integrate the idea as much as possible which is very important for the company. When you do a good systems requirement and specifications by also creating a technological lock-in. This tech. lock-in according to Linda Ungsten “creates greater chances to succeed”.

Implementation “The company employs three validations systems to ensure quality requirements are intact according to in certain project, which makes it’s a little different on the several customer groups they have. To their main customers (e.g. OEM’s), the company engages in video conferencing and gets value by also meeting them face to face in some situations. It can be said that the process help both the company and its customer see same things and aid the possibility of moving to the same direction in most cases.

The Company works coordinately from project inception with decision gates and its dealers do not sell only their products; they have other competitor’s products.
customers and market specifications before going into the actual production. The company works hard to release new prototypes in time for its yearly exhibitions which is essential to enable embedded quality requirements are integrate before the actual products is release into the market and also to attract customer’s attention to its future products”.

“An effective implementation is essential to the company; as costs are increasing, if the company does not have the right inputs from the start to work with, they might end up with products that are might be difficult to sell”.

Table 12: A summarized presentation of case (4) primary data
5.5 Multiple Case Comparisons

The table below compares the data obtained from the empirical investigations of the cases which were also displayed in Table 9, 12, 11 and 12.

<table>
<thead>
<tr>
<th>Case One</th>
<th>Case Two</th>
<th>Case Three</th>
<th>Case Four</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV-PRODUKT AB</td>
<td>MICROPWER AB</td>
<td>BALCO AB</td>
<td>ARCOMA AB</td>
</tr>
</tbody>
</table>

**Idea Generation**

**Case One**
The company searches for new market opportunities proactively by looking into new technologies (externally) and assimilating them in order to solve its customers future needs.

Reactively by giving attention to its previous services by listening to customers and building relationships with the suppliers of product components.

**Case Two**
The company proactively anticipates customer’s needs through its various network of market representatives and falls back to its knowledge thresholds internally to integrate those needs.

Reactively by responding only to its key customers, sales force and through understanding its customers’ needs collectively.

**Case Three**
Proactively the company is backed up by its years of existence in the market which help them secure knowledge capability, patents and workforce that are able to come up with new idea at free will.

The company reactively seeks new ideas by looking at various new opportunities in the market and understanding its customer collective needs.

**Case Four**
The company proactively anticipates its customers’ needs by observation of customer behavior, constantly seek for any possible opportunity and being influence by its marketer’s proposals.

Reactively, the company pays special attention to its customers (e.g. OEM’s), and responds to dealers request if deem risky or opportunistic.

**Development**

**Case One**
The company integrates knowledge internally and does not often involve customers in this stage.

But in certain situations where the electronic testing seem tricky, specific developed prototypes are tested in house only for security reason. However 3D sample
installed in its customers facilities externally but can only be determine by its experts due to complexity of the products.

the company at this stage.

by providing visualizations but then work on its own to develop the ideas.

& prototypes are sent to keys customers only then their suggestion can be integrated if it appears helpful.

<table>
<thead>
<tr>
<th>Implementation</th>
<th>Implementation</th>
<th>Implementation</th>
<th>Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>By making sure its customers are satisfied in the idea generation stage and also through its trade-fairs, the company makes implementation internally by involving key persons and does not require much customer inputs. Customer(s) inputs are reactively integrated to a certain degree in the form of feedbacks and communication.</td>
<td>The company tries as much as possible to co-operate with key customers in some aspects in the development stages. Due to the internal relationship that exists in the company and various subsidiaries, the company does not involve customers much in this stage due to some security and safety reasons. Customer(s) inputs are reactively integrated to a certain degree in the form of feedbacks and communication.</td>
<td>The marketing department reviews most specifications with customer in early stage of idea creation. The company has in-built structures and certifications which enables speedy implementations processes and rarely involve customers in this stage. Customer(s) input are reactively integrated to certain degree in the form of feedbacks and communication.</td>
<td>The company works as hard to have decision gates in early stages from project unset. Co-operate with its customer by Integrating them in phase one and receives feedback from trade fairs. The company works on this phase internally and rarely involve customers in the implementation stage. Customer(s) inputs are reactively integrated to a certain degree in the form of feedbacks and communication.</td>
</tr>
</tbody>
</table>

* N/B: Pricing strategies between all cases differed depending on the markets and customers at various points. Some companies chose to determine final price outcome prior to the development stage, while others develop prices in the implementation stage.
5.6 Chapter Summary

Chapter five (5) presented the relevant empirical data resulting from the interviews conducted. The data from the four companies; IV-Produkt AB, MicroPower AB, Balco AB and Arcoma AB were presented individually and in accordance with the operationalizational constructs obtained from the literatures reviewed. The empirical data were summarized and put in tables to enable the data analysis in chapter six. For more on the interviews, respondents and data obtained from the empirical investigations, see Appendix (B).
CHAPTER 6

Data Analyses & Findings

This chapter presents a cross-case analysis of the data revealed in the empirical chapter. The analysis is based on the research model, literatures and operationalization. In addition to comparing the data across the cases, the analysis also matches and discusses the empirical data with the components of the theoretical framework. The analyses presented in this chapter finally function as the basis for the answering of the research questions.
6.1 Proactiveness during NSD Stages

New service development depends on the multifaceted task of understanding and anticipating underlying (latent) needs of customers (Narver et al., 2004). In order to facilitate proactive knowledge about the customer, customer involvement in the NSD process and observations of customers were put into real action amongst the cases studied (Matthing et al., 2004). In today’s business environments, change comes in the form of new combinations of resources, or innovations; according to Morris et al. (2002), these prompted companies to demonstrate proactiveness when integrating their customers’ needs. Proactiveness is making things materialize through any kind of techniques that are fundamental for a company to develop new products and services (Ibid). The empirical data acquired from the qualitative investigation, showed that proactive customer integration is an important type of activity (orientation) related to company-customer interactions during the NSD process (Pedrosa, 2012).

6.1.1 Idea Generation Stage

During idea generation stage, it was observed that companies were both proactive and reactive during NSD processes, and this was very significant for them to identify their customers’ needs earlier. All the cases were actively proactive by identifying the opportunity in their various market environments (Rickards, 1985). This was eminent in all cases where by companies pursued customer-related proactiveness at the idea generation stage, which seems to be associated to market opportunity (Sanberg, 2007), i.e. either the opportunities were anticipated or formed. Proactively observing customers’ behavior during the idea generation stage aided some companies to identify customers’ unspoken needs (Pedrosa, 2012). For example, Arcoma AB project manager actively monitored customers’ behaviour by her frequent visits to various hospitals around the country (Sweden) to identify the challenges customers’ faces over time. This proactive action of hers, shows that observing customers’ behaviour enables the company to obtain information on unspoken (latent) customer needs that cannot be attained from traditional market research technique e.g. customer surveys (Leonard & Rayport, 1997; Narver et al., 2004). This to a certain degree has aided the company to offer its customers (more importantly OEM customers) with quality services. The co-
operations level demonstrated by the companies studied was high and these were eminent in all cases investigated.

The companies investigated were strongly engaged in all types of co-operations (customers, suppliers and partners) during idea generation stage (Alam & Perry, 2002; Witell et al., 2011; Alam, 2006). E.g. according to Bengt Svesson (Technical Manager) IV-Produkt; “a customer brought an idea for the company to offer a particular design of product. The company co-operated with the customer and made its own investigations just to find out that there were potentials in the idea; as it was discovered that many customers were interested in the same service”. Thus this type of co-operation influenced the company idea generation (Sandberg, 2007) and also paved the way to develop that specific product. MicroPower is a company that relies on the co-operation of its key customers during the ideation stage in order to develop new battery systems. Its marketers have a high co-operation level of understanding with major distributors; discuss with customers on some specific new ideas which enables the company to make observation to know if the new idea can solve its customers’ future needs (Pedrosa, 2012). Balco AB is a company that design and build balconies, co-operation was prevalent in the company. The company integrates its customers more especially during idea generation stage and also satisfies its customer (Johnson, 1998), mostly in this stage by helping visualizing its customers’ their ideas. Arcoma AB co-operate as much as it can with its main customers (mostly OEM’s) during this stage. As highlighted by Arcoma’s project manager Linda Ungsten “Its enable the company articulate various ideas right from onset and helps kick start the company’s project plan”.

Through this type of collaboration where by the companies co-operate with their key customers (Alam, 2006; Nambisan, 2008), have helped in decreasing uncertainty, thus thereby supports companies to generate intelligence with and from customers on new market opportunities (Slater & Narver, 2000).

6.1.2 Development Stage

All cases in this study exhibited various signs of proactiveness in development stage activities during NSD. This study in agreement with the researches of (Sandberg, 2007; Pedrosa, 2012), also observed that all cases primarily (proactively) developed concepts
for innovations themselves. However, the companies acknowledge the importance to enthusiastically seek out customers’ general thoughts about the developed (on-going) new service development or innovation conception. This prompted them to co-create and share knowledge about future customer needs (Johannessen et al., 1999; Nambisan & Nambisan, 2002; Nambisan, 2008). E.g. MicroPower, according to Magnus Phil (R&D/Project Manager) during this stage, the company develops its product internally but then customers are vital in this stage as field testing are done with key (selected) customers in their business premises. This enables the company to further verify all specifications and to assess market attractiveness. In addition, during this testing (proto-typing), companies motivate customers to express their needs and to identify areas for improvement (Scheuing & Johnson, 1989; Nambisan, 2002). Thus, by engaging their customers through this means enables and supports companies make progress on the innovation development (Pedrosa, 2012).

OEM’s and key distributors of Arcoma AB influences vital decision taken during proactivity in development stage (Sanberg, 2007). According to Linda Ungsten (Arcoma’s Project Manager) “3D images and prototypes are forwarded to customers during this stage of NSD process, in return customers can state their thoughts about various specifications (Alam & Perry, 2002). This process help both the company and its customers see same things and aid the possibility of moving to the same direction most often”. Bengt Svensson (IV-Produkt) highlighted that electronic testing are sometimes challenging, so therefore are often tested with some trusted customers over a certain period of time. This shows a style of co-operation level which is vital for the company in getting certain challenges fixed (Bagozzi & Dholakia, 2006). Balco AB have high internal development capabilities (e.g. patents), however developed new products are frequently displayed in various trade fairs around the globe. Its marketers are expected to deliver various feedbacks to the company’s headquarter in which when consider essential, motivates the company to make some adjustments to its products (Witell et al., 2011).

It will be very fundamental to note that this type of customer feedback integration during development activities were no exceptional to all cases studied. In addition to actively exploring customers’ thoughts and opinions, all case studied elaborated on the developed NSD concepts together with their customers is vital. The interviews
conducted showed that this was the only way their companies could decrease the dangers of misjudging identified hidden customer needs (Pedrosa, 2012).

6.1.3 Implementation Stage
According to Gilomore (2007) a strategic implementation of quality in services including planning and creation of new idea should involve various stakeholders. This calls for a joint effort, participation and involvement to certain degree (company & customers). All the cases studied showed that the companies proactively involved customers during idea generation and development stages of NSD. Customers were not fully (with few exceptions) integrated during this stage due to certain reasons (e.g. security) and of the fact that the respondents believed an over involving of customers in all stages of NSD might lead to value depreciation of their products/services. One of the respondents (Magnus Phil) highlighted a point by saying... “The problem is that is sometimes difficult to identify the difference between what actually customers want and what they need (Slater & Narver, 2000; Trott, 2001). However, he further expatiated by underlining that the real good NSD, is developing what customers are not fully aware of but they actually need it. He also gave an example of Apple Inc., as a reference in today's market”.

Thus, all cases investigated revealed that the companies integrates customers proactively mainly during early phases of NSD (ideation and development stages), but work co-coordinately with their subsidiaries, component suppliers, project partners and internal capabilities (e.g. involving key staffs & marketers) during this stage.

6.2 Reactiveness during NSD Stages
New service development processes require the involvement of several functions, notably both front- and back-end. Due to the tangibility of the services (PBS) offered by the cases studied, NPD processes were also prevalent which tends to “emphasize the back end i.e. a lot of time and resources are spent on the initial pre-study and concept phases and on the technical core in, e.g. R&D” (Kindström & Kowalkowski, 2009 p. 163). The outcome of the reactiveness during NSD processes obtained from the cases investigated show some similarities and also certain variations.
6.2.1 Idea Generation Stage

It was eminent in all cases that companies pursued company-customer related reactivity at the idea-generation stage, which seems to be connected to giving quality attention to customers, understanding their needs and responding to their articulated requirements or expressions (Slater & Narver, 1998; Sandberg, 2007). Reactively integrating customers during the idea generation stage of NSD process helped the companies studied ascertain many prevailing customers’ problems which allow knowledge co-creation (Pedrosa, 2012). For example, Arcoma AB acknowledges the importance of knowledge co-creation and sharing with its keys customers (e.g. OEMs), which have supported the company cultivates new product ideas and has enriched the company’s product range (Pedrosa, 2012). Thus, knowledge sharing have enabled the company gain some competitive advantage to a certain level because as stated by Linda Ungsten (Arcoma's P.M.) “Our customers (distributors and OEMs) do not sell only our products in their market. As a growing company we see the need to react and integrate our customers’ ideas which is essential for the company”. Kristian Stenfelt (Balco’s Marketing Manager) stated that “The Balco recognizes customers’ ideas, as customers are vital partners in the construction industry. The company tries as much as possible (via co-operation, Nambisan, 2002; Witell et al., 2011), to make sure that customers’ ideas can be grasped but then the company also falls back to its 25 years of experience in the industry in order to help cement those ideas”.

MicroPower during this ideation stages are reactive to mainly to customers’ feedbacks. Magnus Phil highlighted that “There are two things..., when you have an existing product, you get lots of feedbacks from customers. However with technical skills the company possesses empowers them to create products that can satisfy its customers (Jonhson, 1998), but also by doing things little differently”. Bengt Svensson pointed out that most times marketers are very reactive; they frequently lay down customers’ needs, suggestions and prospective ideas before the entire P.U.G. (Produkt Utvekling Group / Product Development Group). This group then comes to some sort of agreement whether to pursue such ideas or not.

Important highlights to be noted in this research was that all the cases studied acknowledged that customers’ ideas are very essentials to their survivals today; as
respondents made known a fact that at the end of any development cycle, their priorities are intended to satisfy customers’ needs (Slater & Narver, 1998; Kandampully, 1998; Wagner & Hansen, 2004), but also as crucial was fitting the general market requirements (i.e. customers in totality). It was understood that only in some exceptions, single customer’s ideas was entirely considered when it comes to a special development to suit that particular customer's needs. All managers interviewed emphasized that customers’ have difficulties in articulating their needs (Dougherty, 1992; Trott, 2001; Slater & Narver, 2000; Slater & Mohr, 2006; Füller & Matzlerb, 2007). Sometimes their needs (ideas) are too expensive to be attained, while at times can be in form of a fantasy or other times some customers’ ideas are impossible to rationalize. Therefore all cases stressed the need to integrate customers’ ideas (needs) that befits the company’s market specifications and can be generally accepted by their various markets.

6.2.2 Development Stage

During this stage of NSD, customers were not actively involved in the development stage of the companies’ reactivity in the service development, except in some certain situations when it was related to a specific customer (e.g. a Corporation, Organization, OEM, distributor or dealer). This research supports the argument highlighted by (Pedrosa, 2012); as the respondents identified that customers often cannot specify their needs and are usually not fully aware of the means through which new technologies (innovation) could be further developed. In situation when the service on-going development involved specific customer(s), the companies involved the customer(s) to a certain degree and integrated the customer(s) mainly through active communication, front-end and back-end (feedbacks) interactions (Johne & Storey, 1998; Lusch et al., 2007; Lee et al., 2009).

For example when it involves specific customer(s), Mangus Phil highlighted that “MicroPower does development plans precisely early in order to verify the product and see the results. Sometimes if the product is aimed to a certain market, they involve the distributors in that market or sometimes when it is a special product for a specific customer. The company's sales forces are obliged to relay information (to and fro) with the customer”. Mr. Bengt Svensson highlighted that the “IV-Produkt generally work
closely with customers in this stage by means of communication (Rickards, 1985); mostly through its marketing department and export representatives (electronically or physically)”. The company acknowledges marketers are the ones closer to customers; as they are delegated to transmit feedbacks simultaneously to the company's headquarter. Kristian Stenfelt (Balco) underlined that customers’ relationship influences their decision positively in this stage, but are highly appreciated and considered when customer(s) say out their needs at the early stage (mostly ideation stage). According to Linda Ungsten “The Arcoma-imix AB has several dealers and the dealers have customers in their respective markets. When a product is for its general markets, they co-operate and work closely with dealers by forwarding photos (mostly communication). The company also invites its dealers to exhibitions in special locations where they show them prototypes and receive back comments there-after”.

It can be underlined in this stage that relationship building (Johnsson, 1998), through various communication methods, were the key features exhibited by all cases in this study finding ways of tapping and integrating customer knowledge. In general, by not integrating customers actively in the development stage, companies can avoid being exclusively market-driven and subsequently can move beyond developing product or service that customers would likely anticipate before it arrivals in the market (Christensen et al., 2007; Pedrosa, 2012).

6.2.3 Implementation Stage

During this implementation stage, the cases understudied demonstrated different types orientations towards integrating customers. Nevertheless, the key emphases underlined by respondents was that at the end of the day, the company made sure customers feedbacks or recommendations (positive or negative) that befits its market value, gain or advantage were general looked into and sorted out prior to eventual production. However implementation activities varied between the cases studied, depended on the type of service they offer or the customer(s) involved. For example, Bengt Svensson highlighted with the good understanding and relationship IV-Produkt have with key customers (Johnson, 1998; Slater & Narver, 1998), reviewing is done occasional through customer permission at the installed service site or customer’s business premises. This was primed in order to for the company to make observation before its final
implementation. He further emphasis that involving customer(s) during implementation is supportive (Pedrosa, 2012); “customers are the purpose why they exist”.

MicroPower’s Project Manager underlined that it is important to review new product features and specifications with the customers (but mainly key distributors and some end- customers) during this stage, as these practices helps MicroPower build trust and product loyalty. Balco’s Marketing Manager highlighted that customers (re)commendations have helped the company grow. Most vitally is having the will to listening to customers as it is important for Balco, and this is part of the company’s success story today. Arcoma’s Project Manager accentuated the importance of involving customers during implementation, the company builds good relationships with its customers in this stage (Johnson, 1998) “as customers see the importance to buy the product and know that the company can also support them with the right marketing materials to sell the products to their end customers”.

Key notes to be underlined in this stage was that customers’ were integrated (generally), prior to final implementation processes (e.g. pricing, functionality, usage, guidance and direction etc.), to actual service creation. Customers were looked upon as valuable contributors (Auh et al., 2007; Nambisan, 2009; Nambisan & Baron, 2010; Madjar & Walters, 2010). Respondents highlighted that during new service implementation process, whereby prototypes were development and exhibited in various market trade-fairs their marketers (representatives) attended. The companies appreciated customers’ contributions or responses through feedbacks and recommendations on the innovation’s usability and how it could be improved (Sandberg, 2007; Pedrosa, 2012). Thus, integrating customers is exceedingly significant for the companies during the implementation stage because products and services are primarily tailored to be delivered to customers (Matthing et al., 2004; Vargo & Lusch, 2004).
Figure 4: The Outcome of the Cases Orientation towards Integrating Customers during NSD

Relationship building and customers satisfaction was also prevalent in all Stages / Orientations. This study also acknowledges the influence of major players such as CEO, Board Members and Branch Managers for their roles in binding collective decisions taken during the NSD processes.
CHAPTER 7

Conclusion and Contributions

In this final chapter, the main findings and conclusions from the analysis and discussion in chapter six are presented. The research questions are answered in this chapter from the perspective of the data obtained. The chapter ends with a presentation of the managerial implications and theoretical contributions this study has resulted in, as well as a discussion regarding the limitations of the research. It will be worthy to be noted before proceeding into this chapter, that the small sample of cases (four companies) used in this research, might be a limitation to the research findings. Hence this study generalization should be carefully considered with adequate precaution.
7.1 Conclusions

This study was focused on investigating a multifaceted context-bound contemporary process tangible service providers (PBS) integration of their customers during NSD. The purpose of this research was aimed to empirically examine the proactive and reactive activities TSP’s (product-based service firms) undertake to integrate customers during the identified three important stages (idea generation, development and implementation) of new service development process.

From the existing literatures reviewed in this paper addressing customer integration and interaction during NSD, three research questions were created (see chapter 3).

*In chapter seven, section 7.1.1-7.1.3, the conclusions of the research are demonstrated in the form of the research questions being answered.*

7.1.1 Identification of Orientation (Interaction)

From the cases investigated, a sequential pattern was detected and had a similar occurrence in all the companies studied. The cases identified when to act proactively by looking continuously in their various market environments, industry, competitors, component suppliers and internal development capacity (structures). It can be assumed that this enabled the companies to ascertain the exact point to proactively work collectively (internally & with partners), towards embarking on NSD in order to satisfy their customers’ needs. It was apparently predominant from the obtained data that in the idea-generation stage; the cases anticipated diverse opportunities in the market through several means available to them (e.g. trade fairs, new technologies/innovations/trends, product exhibitions etc.). More importantly this means assisted the companies towards establishing at what stages to interact or integrate their customers. Additionally, the means were also observed to be a vital empowerment tools used by the investigated companies in discovering what kind of services customers might need in the future. This was very necessary for companies at the very early stages of the new service development process in recognizing customers’ latent needs.
Reactively, the cases identified when to demonstrate reactive orientations towards identifying customers’ needs by paying close attention to their key customers (e.g. dealers, OEM’s etc.) and understanding their needs, but most importantly the collective needs of their market. Longitudinal studies such as monitoring the market effect of services in existence, feedback methods, documentation in the form of taking customers statistics, the use of the company’s marketers, sales force and trade representatives were the key tools the studied cases used in identifying when to act reactively towards fulfilling perceived customers’ needs. Through these processes the companies again customer insights, which enable them to articulate the expressed need of their customers. This study in accordance with previous research notions can highlight that not only by a company demonstrating a reactive orientation in identify customers’ needs leads to new service ideas, but more importantly to be noted is that the reactivity of a company (e.g. using longitudinal tools or feedbacks methodologies) can also lead to proactivity. However, this can be achieved by doing things not exactly as expressed by customers but by doing things differently, bearing in mind what customers stated and also coming up with new services that offers greater improvements (expansions) surpassing current customers’ expectations.

7.1.2 Proactiveness during NSD

As stated above, during idea generation stage, companies developing new service anticipated various opportunities in their market environments. However, customers were very crucial to the companies towards establishing those ideas becoming services that customers will likely need in the future. The companies studied have various structures (internal; R&D dept., skilled personals and external; support organization, partners) that proactively co-ordinates their idea-creation thresholds. More importantly in cementing those ideas were proactive orientations such as: listening often to key customers (e.g. dealers, OEMs etc.), attending business trade-fairs and communicating with major suppliers of key components (for latest or standard models); before making internal mechanical constructions and designs to adapt various new components in its new service offerings. Customers were not fully integrated in the companies’ proactive idea generation schemes. However, the studied cases integrated necessary customers feedbacks obtained from services they currently have in the market. The outcome from
the empirical investigation also showed that companies through their marketers and sales forces during the process of visualization of new idea could relate with key customers. Sales persons (marketers) are closer to their customers and relays information to customers about an ongoing new service idea the company is about to venture into. This enable the companies make customers observations, which also paved way for customers’ co-operation and knowledge sharing (see empirical chapter). Hence, it can be said that this process facilitated the cases coherent various ideas (internally & externally) right from on set and helped kick-start the companies’ project direction.

Data obtained from the cases investigated shows that integrating key customers during development stage, i.e. by enthusiastically seeking out customers’ general thoughts about an on-going new service development process or by actively involving key customers during the prototype testing was a key successful factor in achieving substantial innovative effects. The cases studied demonstrated more proactive orientation in development stage of NSD by greater involvement of customers in various types of prototyping (e.g. physical and graphical modes). This was very essential in getting service mechanisms sorted out on time prior to implementation. Key customers were involved proactively during development stage by mutual co-operate and by photo or 3D design forwarding from the company. The companies also integrated customers by engaging them in video conferencing and gets value by also meeting them face to face in some situations during development stage. The companies invite their main customers to exhibitions or market trade-fairs. There, they show customers prototypes and receive feedback thereafter. Key customers were also involved during prototype testing, where by the company creates some pre-serial model which are sent to various key customers for field testing. However, this practice was done with carefulness in order not to expose their ongoing development to competitors or over burden customers. Thus, most of the companies chose to do the majority of their prototype testing internally.

This study in agreement to previous studies, observed an orientation of integrating customers proactively during development stage, accelerates knowledge sharing. It will be very fundamental to note that customer feedback integration during development activities were no exceptional to all cases studied (except case three). Thus, this
enhances the chances of co-creation which can facilitate customers perceiving (seeing) themselves as being part of the company’s new service.

The findings from this research show that customers were not proactively integrated during implementation stages due to certain internal factor or concerns. It was an underlying factor based on that fact that the cases believed an over involvement of customers in all stages could jeopardized the companies’ effort to offer services that surpasses customers’ expectations. However, by the means of reactive orientations, customers were better involved in implementation stage. Finally, the research shows that the benefits and outcomes of companies’ successfully pursuing proactive orientation through the means of vigorous communications and feedbacks exchanges with customers during service implementation, could enable positive thinking and empowers companies to integrate customers’ thoughts during the ideation phase or early stages of NSD in the future.

7.1.3 Reactiveness during NSD

It was established in the data analyses phase that the cases investigated recognized when to demonstrate reactive orientations towards identifying customers’ needs by paying close attention to their key customers and understanding their collective customers’ needs that was exclusively suitable for the companies’ market generally. Two types of orientation were prevalent in this current research, as processes the studied cases utilized in ascertaining when to act reactively towards identifying customers need. Firstly, as observed is that if a company have an existing product or service in the market, it should act vigorously in advocating customers to send feedbacks and recommendations of any type (important or not) on regular occasions. This was very central to the cases studies in determining when to act reactively towards identifying customers’ needs. Secondly, it was established from the data collected during the empirical investigation and was definitely present in all cases, that the companies used their marketers (sales force) to communicate with key customers in seeking their thoughts and suggestions on how to improve current services. However, internal decisions taken within the companies towards the pursuit of those needs that were deemed suitable for the companies collective market requirement, or were reactively
looked into if it was determined that a failure not to consider customers thoughts (suggestion or request) could give their market rivals a competitive advantage.

In order to enable the companies in making the new service come to light, customers played various roles during the entire process which was a key determining factor in the NSD process. During idea generation stage, all cases acknowledged the importance of knowledge sharing with key customers through the means of using marketers or sales force in engaging key customers in feedback exchanges. This was very vital in tidying-up knowledge accumulation during ideation phase, whereby customers are also seen as support-resource for the companies cultivating the new service ideas. The outcome of this research supports earlier studies findings, which recognizes knowledge sharing of ideas with key customers are very essentials for a company to survivals fierce competition in today market. It was eminent in this research as a matter of certainty, all respondents made known a fact that at the end of any development cycle, their priorities are intended to satisfy customers’ needs. This therefore shows the importance of integrating customers input in this early stage of NSD.

Reactive orientation in the development stage as demonstrated by the cases investigated, illustrate interaction with customers is a key factor for the companies to fully develop its services. However, the outcome of the empirical investigation showed that customers were not fully involved in this stage expect in some certain situations when the service was centered to be offered to specific customer(s). The respondents identified often customers cannot detail their needs in this stage and are usually not totally aware of the means through which new idea, technology or innovation could be further developed (mechanized). Thus, the pattern in which the investigated companies exhibited reactively towards integrating customers during development stage, was through communication (e.g. e-mails, video-conferencing, mobile calls and photo imaging etc.) back and forward with key customers. However, this active communication with customers in which graphical samples were disclosed or sent to customers (major customers) leads to feedbacks (to & fro). It can be seen as a knowledge sharing method and was very beneficial to the companies in advancing with new service development procedures.
All case studied recognized the importance of actively exploring customers’ thoughts and opinions during implementation stage of NSD. In the implementation stage, companies developing new service prepare the market before going into actual production. The companies mainly react to customers’ and their market requirements prior to the actual service launch or delivery. The investigated companies integrate customers reactively during implementation stage by actively seeking customers’ opinion, communications and inviting customers to various yearly business trade-fairs. This process as mentioned above, enabled the companies seek customers’ thoughts about their services and was also achieved through various materials or catalogues on display. Thus, the companies see this process as creating positive impressions, in which they endeavour to show customers how vital the company consider or value their opinions. It was also made known that by inviting customers, showing them new service designs that was developed and asking them to state their opinions prior to final implementation procedures (e.g. prices, colours, sizes, textures etc.), are ways that the companies used in building a sense of togetherness in the perception of their key customers.

This study underlines that exploring customers’ thoughts during implementation stage of NSD is indispensable in today’s competitive market environment. The study interviewees recognize the challenges competitors’ poses in the market today are prominent, and of the fact that customers are always seeking towards better offerings and relationships. Furthermore, this research can conclude that by integrating customers thoughts in implementation process will help both the company-customers see similar things and will likely support the possibility of moving towards the same direction in future endeavours. Lastly, this study can highlight that reactive orientation during implementation stage as displayed by the cases (see empirical & analyses chapters), is imperative of essence in today’s market environment. This can be strengthened from the data obtained in this study which shows that companies with existing products or services can seek customers’ suggestion, proposal and new idea through reactive orientations. This can then be proactively integrated, but can be successfully implemented by making substantial changes in order for customers not to perceive the company as too reliant on them for inspiration on new service ideas.
7.2 Theoretical Contributions

Several literatures in field of marketing and innovation, constantly advocate the significance of integrating customers in NSD process; expansively improves a company's innovation performance (Vázquez et al., 2001; Lusch et al., 2007; Boger et al., 2010; Witell et al., 2011) and hence enhances its capacity to efficiently compete (Atuahene-Gima et al., 2005; Ettlie & Rosenthal, 2011). The empirical data obtained from the four cases, revealed that reactive and proactive customer integration is important in effectively anticipating customers' expressed and underlying (latent) needs during the NSD.

This research also holds importance because from the companies' viewpoint, determining the exact point to integrate customers is imperative. This imperativeness according to Pedrosa (2012), create a crucial balance between the costs of, and returns from integrating customers. This study complements earlier studies which show that companies exhibiting proactive and reactive orientations during NSD, by effectively integrating customers increase the companies' ability to co-create new services. Co-creation of service or product with key customer(s) through the mode of knowledge sharing enhances value of new service/product (Johannessen et al., 1999). Furthermore, the outcome of this research also demonstrated that the practice of anticipating customers' needs through numerous opportunities in the market appears to play an important role at the idea-generation stage.

This study, with the benefits from literatures revealed (e.g. Nambisan, 2002, Alam & Perry, 2002, Alam, 2006; Alam, 2013), shed more lights on the process of integrating customers in three stages of new service development. The empirical investigation also gave insights of the proactiveness and reactiveness activities TSP's, undertake towards gaining new customers knowledge and reveals how those new ideas can facilitate a company’s NSD process and innovation. Finally, from the data gathered, this study supports the notion that proactive-reactive customer integration are essential in order to stimulate and initialize knowledge co-creation (e.g. Sandberg, 2007; Witell et al., 2011, Pedrosa, 2012).
7.3 Managerial Implications

From the findings and conclusion of this study, a number of managerial recommendations can be suggested. The author of this paper advocates business managers to use this study and its recommendations for achieving better understanding of the complexity surrounding their work and how the actions (path) they trail can help their companies or organizations better handle certain complexities. In doing so, they can be able to make more compelling decisions regarding the activities or orientations they coordinate to the betterment of their respective organizations or industry.

First and foremost, business managers are advised to effusively understand the group of key persons e.g. customers, suppliers, partners and individuals (internal or external) surrounding them to carefully identify the impact these persons can have on the company and its future consequence. Such thoughtfulness and insight provides a solid foundation on which to support decisions regarding business management and market assessment making.

Furthermore, as it was highlighted in this study that reactive orientation during implementation stage, enables customers to make recommendation or suggestion on how new service should look like or be improved in the future. Business managers that are seeking customers’ knowledge proactively are hereby advised to see the need to also effectively advocate customers’ feedbacks through reactive orientations. This study outcome demonstrates that through the means of reactive company-customer interaction in NSD implementation stage, there are chances of also being entirely proactive. This can be accomplished by coming up with new product or service that goes beyond preliminary customers’ expectation; by integrating reactive customers’ feedbacks and recommendations proactively during NSD idea generation stage. Through this process, companies can fully boost its proactiveness and focus all its resources by only working closely internally or with relevant suppliers and associate partners. Hence, this thereby help exclude the over burdens created in integrating customers in every new service development stages the companies intends to actively pursue in the future.
7.4 Limitations and Future Direction

Limitations of this research are related to the scope of the study environment and its qualitative approach. Due to inadequate time and resources available during the data collection process, the numbers of cases were focused only in one region of southern Sweden (Småland). It should be highlighted that few persons (but in key positions) made themselves available to contribute to this research. This study would have like to take into account the perspective of all top managers in the various companies investigated, but due to circumstance beyond the author’s reach, was not able to interview numerous respondents from each company during the empirical investigation. These limitations therefore also reveal possible suggestions for further research to be conducted in relation to this study and in the future.

Firstly, the industrial scope of this study only covered the TSP’s (product-based services) using the study assimilation approach (Jin et al., 2012) and the synthesis approach (Drejer, 2004); which both approaches emphasis that the concepts developed in the product context can be applicable to the service context. For this study outcome to be generalized, it will be relevant to conduct a similar research in another industrial setting; by involving numerous respondents in order for the present study to hold high reliability.

Furthermore, since only companies that were Swedish originated and located in the Småland region were investigated. It is also a limitation to this study which might have some effects on the final outcome of the research (e.g. cultural, social, economic, governmental factors etc.). Hence, conducting a similar research (same industry) in other parts of the world is recommended in order to test the results of this research in another business environment to see if the outcome holds similarity or differentiation.

Additionally, due to limited time frame stipulated in conducting this research, pricing was not discussed much in details due to numerous multifaceted involved; as pricing can lead to an entirely new topic of study on its own and can derail the initial purpose this paper was meant to investigate. Therefore, it will be relevant to make a further research to see if involving customers’ proactive or reactively during NSD influences companies’ general pricing decisions. Additionally, the recommended research should also be able
to determine the most appropriate stage a company can integrate customers when making its overall pricing decision.

Previous literatures revealed in this study highlighted that proactive and reactive firms’ orientation enhances service quality, which also leads to customers’ satisfaction. The outcome of this research agrees in accordance to the above statements, as the data obtained from empirical investigation gave some insights to it. However, due to the qualitative nature of this study, could not measure the relations of proactive and reactive customers’ orientation in relationship to service quality and customer satisfaction. Hence a quantitative research will also be recommended, aimed to measure the effect of proactive and reactive firms’ orientation on service quality in relation to customers’ satisfaction.

Lastly, through a quantitative research method, a follow up research is also suggested in relations to this paper to measure the effect of proactive and reactive customer integration on firms’ product-based service performance. This is recommended as it will help examine the outcome of this study by giving numerical figures which also test the probability of this research finding having the ability to be statically generalized.

### 7.5 Chapter Summary

In this chapter, answers to the research questions of this study were presented and discussed with regards to possible limitations in the present study. Managerial and theoretical implications were also addressed. The study also contributes to previous theoretical investigations and propositions; but in a new context by providing managers with a deeper understanding of how customers are proactively or reactively integrated during the process of new service development. Finally, suggestions for further researches were stipulated.
Reference List

The lists of all the references used in this study are provided below. In order to facilitate the documentation, the references are organized alphabetically in accordance with Harvard referencing system.


Appendix (A) - Research Interview Guide

I am a bachelor student from Linnaeus University School of Business and Economics Växjö (Sweden). Am studying International Marketing as my major and presently writing my bachelor thesis, which is a multiple case study of the proactive and reactive activities firms (service contractors) undertake to integrate customers during the new service development stages (i.e., idea generation stage, development stages up to the implementation stage). There are some questions I will highly appreciate you to help contribute in order to strengthen this study by your response. The structure of the interview guide gives you an alternative to choose to be anonymous if compelled to. As a benefit, this research offers you a chance to contribute to a study that is of constructive benefit to aspiring business managers, young academies and future scholars. In addition the final outcome of this study which will also contain insights from other business managers will be sent to you. Hopefully the findings obtained from this research can help you make important decisions as a manager which will be of an effective benefit to your organization in the future, thank you.

# Background of the Interviewee

Position:
Experience in this company:
Experience in the industry:

i. How does the company ascertain when to act proactively when identifying customer's future needs?

ii. How does the company identify when to act reactively when responding to customer's expressed needs?
Idea Generation Stage

1. How does the company generate a new service idea?
2. How does the company anticipate customer’s future needs?
3. In what way does the company appreciate customer’s potential influencing the new idea?
4. How does this company work with customers when they initiate a new service idea or express their current (articulated) needs?
5. How does this company work closely with customers to help cultivate this new idea?
6. How does this company assure its customer that the co-created new idea can solve its existing need?

Development Stage

1. How does the company advances with the service development once a new idea meets customer’s requirements?
2. How do co-operation activities go on with the new ideas (within and with lead-user/customers)?
3. How is the prototype designed and tested to ensure embedded customer needs are Integrated?
4. How does this company work closely with customer in the service development after the new idea in accepted?
5. How does your customer relationship influence the decisions taken in the development stage?
6. What does this company take into account to effectively capture the overall customer’s spoken needs during development stage?

Implementation Stage

1. How does the company proceed with implementation once a new service prototype is developed?
2. What are the procedures this company employ to review all service specifications before a service is ready to be delivered?
3. How does the company integrate (incorporate) customer's feedback after the service is delivered (utilized) into solving future needs?

4. Can you explain to what degree can the fulfillment of customer unspoken or future need impact on your company's business activities?

5. What is the importance of reviewing all aspects of a new service with customers?

6. Can you explain communication and logistic processes involve with working closely with customers in satisfying their spoken (expressed) needs?

7. Can you explain in your opinion the prospective advantage of integrating customer by reacting to their spoken needs in order to create satisfaction?
Appendix (B)

Responds From Interviewees

# CASE (1) - IV PRODUKT AB

Name: Bengt Svensson

Position: Technical Manager

Experience in this company: R&D, Production Tech, Project Mgt. and Customer Support

Experience in the industry: 33 Years

iii. How does your company ascertain when to act proactively when identifying customer’s future needs?

“The company looks into the market regularly, reviewing old products, adapts new technologies to meet up current and future markets specifications or customer needs. They then make plans to integrate the current trends into its new products development plans”

iv. How does your company identify when to act reactively when responding to customer’s expressed needs?

“The company frequently engages in doing longitudinal studies about its services, constantly listening and working closely with customers to satisfy the market needs. E.g. Services delivered to various customers are monitored by follow up documentation, taking statistics in order to make correction for subsequent new services”.

Idea Generation Stage (Proactive)

1. How does the company generate a new service idea?

“There is no particular system that automatically develop new service idea in the industry today, but rather they listen often to customers, attend market (business) trade-fairs, communicate with suppliers of various components to know their latest standard models before making an internal mechanical construction to adapt various new system (components) in its new service offering”. 
2. How does the company anticipate customer’s future needs?

"By constantly looking into the market, modernizing new product by combination, adaptation and assimilation of previous techniques to its new service offerings today. They also have a P.U.G (Produkt Utvekling Group – Product development group) internally which meet ten (10) times yearly, (ranging from; marketers, exports reps, product developers, product managers, some members of the board) whereby they discuss and share ideas".

3. In what way does the company appreciate customer’s potential influencing the new idea?

"The company recognizes customer’s potential influences new ideas as services are design to meet its customer’s demands at large. Although the Mr. Bengt Svensson stressed that customer potentials most often are very hard to articulated, so therefore the company makes a combination of useful customer's idea before taking the final decisions if to carry on with such ideas toward the next stage".

Idea Generation Stage (Reactive)

4. How does this company work with customers when they initiate a new service idea or express their current (articulated) needs?

"Mr. Bengt Svensson pointed out that most times marketers are very reactive as they frequently lay down customer needs, suggestions, prospective before the entire P.U.G. (Product development group) come to an agreement whether to pursue such ideas or not. However the technical manager of IV-Produkt highlighted that the company does not integrate only one customer need/idea; as it is very expensive to develop such service. They integrate customer's ideas that meet the company’s market specifications and can be generally accepted by various types of customers".

5. How does this company work closely with customers to help cultivate this new idea?

"According to IV-Produkt technical manager “the company listen to customer e.g. a customer brought an idea for the company to offer a particular design of product. The company made external investigations and found out that there were potentials in the idea as it was observed that there were many customers who were interested in the same services. Thus this paved way for the company to develop the specific product".
6. How does this company assure its customer that the co-created new idea can solve its existing need?

“The company assures its customers at large about the co-created new service idea by designing a mechanical framework which is internally constructed by its specialized R&D department and then forwarded to customers to have a look”.

Development Stage (Proactive)

1. How does the company advances with the service development once a new idea meets customer’s requirements?

“The company works within its capacity by documentation of all the component, materials, and cost for offering any particular product. Diagrams are created using software which all aids mechanical constructions”.

2. How do co-operation activities go on with the new ideas (within and with lead-user/customers)?

“The company has a huge workforce and also has an R&D department where by developers interacts constantly with some chosen departments and experience managers (CEO, Production/HR-& Quality/Environmental Manager, and Technical Manager), external suppliers and subcontractors”.

3. How is the prototype designed and tested to ensure embedded customer needs are Integrated?

“Prototypes are mostly design within the in company facility in Vaxjo because according to Bengt Svensson, the company have a state of the art complex and environment which allows all kind of prototypes to be design and tested. However electronic testing are sometimes challenging, so therefore are tested with some trusted customers, partners over a certain period of time”.

Development Stage (Reactive)

4. How does this company work closely with customer in the service development after the new idea in accepted?

“Mr. Bengt Svensson stressed that the company work closely with customers mostly through its marketing departments and export representatives. The firm acknowledges marketers are the ones closer to customer; as they are oblige to transmit feedback simultaneously to the firm
headquarter”.

5. How does your customer relationship influence the decisions taken in the development stage?

“Customers relationships influence the company's decision at the development stage because the company values its esteem customers; as the finish service is delivered (offered) to them according to the general accepted needs for their market”.

6. What does this company take into account to effectively capture the overall customer’s spoken needs during development stage?

“The company takes into account the total value creation of the new service in this stage but also made mentions that the value creation must cover general acceptance by its numerous customers globally as the company recognizes the spoken needs of customers in totality”.

Implementation Stage (Proactive)

1. How does the company proceed with implementation once a new service prototype is developed?

“Testing is done on the prototype within the company's R&D facility in Vaxjo and management decisions are taking in order to go on with productions if concluded by top executives that the particular service meet market demands”.

2. What are the procedures this company employ to review all service specifications before a service is ready to be delivered?

“According to Bengt Svensson, the company work within by involving key persons in co-ordination with it technical department and external by interacting with key suppliers of components, in order to obtain exact specifications”.

3. How does the company integrate (incorporate) customer’s feedback after the service is delivered (utilized) into solving future needs?

“The company refers back to the P.U.G.'s (Product development group) which meet frequently (ten times a year) and comprises selected person in key department; to discussion success and failure mode which are then drafted to solving future customer's needs”.

4. Can you explain to what degree can the fulfillment of customer unspoken or future need impact on your company's business activities?

“It has helped built trustworthiness to the company's brand and has enabled the company more
in all markets in Scandinavia, which also help push its services globally”.

Implementation Stage (Reactive)

5. What is the importance of reviewing all aspects of a new service with customers?

“It enables the company trace out defects or malfunctions, IV-Produkt have a department that is responsible for reviewing its new services carefully most internally before delivery. Further reviewing is done occasional through customer permission at the installed service site or customer’s business premises”.

6. Can you explain communication and logistic processes involve with working closely with customers in satisfying their spoken (expressed) needs?

“The company has specific departments that travel to various service sites, they take measurements and dimensions require by outsourcers, they return back to the facilities in Vaxjo where the mechanical construction are made and fitted with the electronics component from suppliers”.

7. Can you explain in your opinion the prospective advantage of integrating customer by reacting to their spoken needs in order to create satisfaction?

“It is supportive because customers are the purpose why they exist, as the company does not offer service to its self but rather to customers, and if customers are satisfied they are happy too. Bengt Svensson noted that the company always has no objective to implement a single customer needs, but looks at integrating by reacting to the total customers expressed need at large in order to create general satisfaction and bring down cost”.
# CASE (2) - MICROPOWER AB

Name: **Magnus Phil**

Position: R&D Project and Design Manager, Foreign Communication (USA)

Experience in this company: 5 Years

Experience in the industry: 23 Years

i. *How does your company ascertain when to act proactively when identifying customer’s future needs?*

"The problem is that is sometimes difficult to identify the difference between what actually customers want and what they needs. Often MicroPower communicates with sale reps, who talks to customers as customers express their want or just what they know. However, the real good development is developing what customers are not aware of but they actually need it. That are tricky way, they are not very good in that to compare with Apple but they are trying by pursuing such strategy”.

ii. *How does your company identify when to act reactively when responding to customer’s expressed needs?*

"In general they use the sales force to know when to act reactively, but then sales force of give you feedback about current technologies or features. Mr. Magnus Phil acknowledges the power of marketers but however, it is very crucial to have a knowledge intensive R&D department and that is what they mainly rely on. As a company MicroPower, they integrate customers by using their distributors around the World, but sometime also meet end customers”.

**Idea Generation Stage (Proactive)**

1. *How does the company generate a new service idea?*

Actual the company those not have a specific system that generate new idea internally, however based on its networks and subsidiaries. "Actually a lot of new the best ideas are generated around the coffee tables during breaks (organize coffee breaks are very important to the company), mostly marketers comes back and are sometimes frustrated and relay feedbacks from customers to others around the table. The R&D dept. sits down later to map out plans to integrate those new ideas”. 
2. How does the company anticipate customer's future needs?

"The company has product planning process (PPP), as they tend to work ahead on new product e.g. 3 to 4 years in advance. R&D, Sales persons and admin board meets to in these P.P.P. meetings and discuss on NPD. Sales forces (marketers) are then used to discuss with customers to observe if the new idea can solve can their future needs".

3. In what way does the company appreciate customer's potential influencing this new idea?

"Of course company value customers by to satisfying its customers but most time customers need are very hard to articulate or impossible (present) to achieve exactly. However with technical skill the MicroPower possesses, the company can create things that can satisfy customers by doing things little differently. Although in general the company needs to satisfy customer’s needs, so they listen to customers as much as possible".

Idea Generation Stage (Reactive)

4. How does this company work with customers when they initiate a new service idea or express their current (articulated) needs?

“There are two things, when you have an existing product, you get lots of feedbacks from customers, often it comes from their end customer via their distributors and then to the company. When it arrives to R&D, the sales department talks to the distributors, the distributor then communicate with customers”.

5. How does this company work closely with customers to help cultivate this new idea?

“The company recognizes the powerful influence customers have on new product process, the company most times allows customers feedback in this stage, but often customer’s feedbacks are all about extra features and they don’t get a feedback about customers requiring entirely something new or total different in product”.

6. How does this company assure its customer that the co-created new idea can solve its existing need?

“Throughout R&D stages, design and specification, they interacts (forward and backward) with their customers (often distributors) about an ongoing process in the company. Often times when the R&D department can’t get the exact requirements, they discuss with customers to see if they can make some alterations in order to achieve the end goal".
Development Stage (Proactive)

1. How does the company advances with the service development once a new idea meets customer’s requirements?

“It is relatively traditional for the company; the company sets up a development project, appoints a project manager or leader, sets up steering groups (sales force and management personal staff), makes a budget, starts with specs of the new product attributes. These projects are different, can be 2 weeks, 2 months or 2 years; depending on the complexity of what is involved”.

2. How do co-operation activities go on with the new ideas (within and with lead-user/customers)?

“MicroPower has two different customers, one is the distributors and the other is the industrial users (small & large companies) because the company’s services are industrial products. They meet their customer regularly, having Skype conferences and keeping in touch on regular bases”.

3. How is the prototype designed and tested to ensure embedded customer needs are integrated?

“The prototypes are mostly physical prototypes in the labs (quality, performance, environment and ruggedness). When the company is satisfied with the test, they produce some pre-serials and send it to the field for testing. Field testing is done with some value customers nearer to its headquarters, except what the service is constructed for a special machine, and then they travel to the particular customer destination for field testing”.

Development Stage (Reactive)

4. How does this company work closely with customer in the service development after the new idea is accepted?

“The company does plans relatively early in order to verify the product and see the results. Sometimes if the product is aimed to a certain market, they involve the distributors (regular contacts) in that market or sometimes when it is a special product for a specific customer, the company’s sales forces relay information (to and fro) with the customer.

5. How does your customer relationship influence the decisions taken in the development stage?

“Trusted customer relationship can help raise some questions during this stage, but however, the company tries as much to keep customers out of development stages because if it sales oriented, they don’t under estimate the ability of customers to start selling the product if before
it finally arrives in the market. So therefore most times during this stage, the technical department does not reveal too much to customers”.

**6. What does this company take into account to effectively capture the overall customer’s spoken needs during development stage?**

“Most important they do further testing in this implementation stage by going more “accelerated testing” again in the labs to make sure all specifications (mainly product life-span and durability) is in the right other. For example ten (10) samples are sent to customers and they make sure they operate parallel before the make conclusion”.

**Implementation Stage (Proactive)**

**1. How does the company proceed with implementation once a new service prototype is developed?**

“The Company tries as much as possible to have an effective time schedules during a project from start up. The last thing they do in implementation stage is to integrate the marketing department; as it is recognized to be crucial to any success of the sales of any new product”.

**2. What are the procedures this company employ to review all service specifications before a service is ready to be delivered?**

“The company during this stage, through its distributors finds an existing customer (with an existing problem) that is willing to recognize the benefit of testing the new product under development, in order to solve the problem (on both ends). In this process, customer is made aware of this prototype and reliability; as the company engineers are alert in case of any failures”.

**3. How does the company integrate (incorporate) customer’s feedback after the service is delivered (utilized) into solving future needs?**

“At the end of every R&D projects, the company set up data base, where its salespersons and keys customer over the internet can fill out feedbacks. The company does not have control on the mode of feedbacks, so they entertain any type of feedback (relevant or not) but acknowledge feedbacks are helpful in their future activities. They try to let customer also know that it is important to let the company know how the product affects their performance (technicality), so the company is be able to trace problems and create possible solutions”.
4. Can you explain to what degree can the fulfillment of customer unspoken or future need impact on your company’s business activities?

“MicroPower tries to fulfill customers' needs by listening much as possible. Customer feedback from existing products have at least a 50% impact in the company new products plan but then the company also recognize the need to integrate new technologies by developing new capabilities (internally) that the customers are not totally aware. According to Magnus Phil, this is a dynamic key to MicroPower success today”.

Implementation Stage (Reactive)

5. What is the importance of reviewing all aspects of a new service with customers?

“It is important to review new product with the customers but mainly distributors and some end customers that having been using their prototypes and feed test of their product. These practices help MicroPower build trust and product loyalty”.

6. Can you explain communication and logistic processes involve with working closely with customers in satisfying their spoken (expressed) needs?

“Internally they have an environment that permits anyone to talk to the other at free will, less emails and coffee table discussion. Externally they make Skype call, video conference, marketers travel a lot and also have direct contacts with distributors/key customers”.

7. Can you explain in your opinion the prospective advantage of integrating customer by reacting to their spoken needs in order to create satisfaction?

“Customers are helpful as they come up with some ideas mostly to solve their individual needs but however a capable R&D is needed in order to help them articulate such needs”.
# CASE (3) - BALCO AB

Name: Kristian Stenfelt  
Position: Marketing Manager  
Experience in this company: 2 Years  
Experience in the industry: 16 Years

i. How does your company ascertain when to act proactively when identifying customer’s future needs?

“The Company has its product development department that designs its own product internally by reviewing previous design by looking at marketing and coming up with product customer “may need”. However when the marketing department goes out on trade or business fairs, potential customers are able to see the latest offerings the company is developing or has developed”.

ii. How does your company identify when to act reactively when responding to customer's expressed needs?

“Balco identifies customer expressed need (if it can be met) through its sales persons but then it is up to the company to make proposal to the customer. The company endeavors as within its capacity to help customers achieve their needs but then the kind of service the company offers (construction of balconies) requires technicality and customers have relative (not much) knowledge about the theories, designing or construction involved”.

Idea Generation Stage (Proactive)

1. How does the company generate a new service idea?

“The Company was founded on technicality (persons), most of the new ideas are generated by the employees (sales person, marker/business manager, R&D) within the company. The company makes sure that it new ideas if feasible are patent; as today the company possesses 60 patents its boost and these are the company core competences they rely on”.

2. How does the company anticipate customer’s future needs?

“The company's technical experience is very high as they employ technical skilled workers; which enable the company generating new ideas to solving future customer needs. Workers are
free to come up with good proposals about design and the company carefully looks into them and identifies potentials in the process”.

3. **In what way does the company appreciate customer's potential influencing this new idea?**

“Our customer potential influence some of our new idea (internally) during exhibitions shows, they talk to our marketers out there. Some of their useful comments are sent back to our design department in which we sometime are useful and we look into it.”

**Idea Generation Stage (Reactive)**

4. **How does this company work with customers when they initiate a new service idea or express their current (articulated) needs?**

“The Company highly recognizes customers in this stage; as customers are vital partners in the construction industry. We try as much as possible to make sure that their idea can be reach but then the company also falls back to its numerous years of experience (25yrs) in the market in order to help cement the ideas”.

5. **How does this company work closely with customers to help cultivate this new idea?**

“If it is service for a particular customer, we create visual graphics that fits the exact structures they need, customers are free to raise comments or make amendments in which the company sees to it. But general we help work on our customer idea through existing service feedbacks and improve on them”.

6. **How does this company assure its customer that the co-created new idea can solve its existing need?**

“The Company does graphical 3D animations which they send out to the customers for observations before they proceed to the next step in this stage”.

**Development Stage (Proactive)**

1. **How does the company advances with the service development once a new idea meets customer’s requirements?**

“The company has management meetings where they discuss about possible new product design, the members in the meeting looks into the company's competence (internally) and
market needs (externally). Agreements are made about the new products and instructions are given to top personnel's in the product department to pursue certain type of projects”.

2. How do co-operation activities go on with the new ideas (within and with lead-user/customers)?

“The company appoints specific person to head the projects and try to make sure the idea can be realistic. When it involves a particular customer, the company makes frequent contacts with the specific customer in order to enable the idea manifest”

3. How is the prototype designed and tested to ensure embedded customer needs are Integrated?

“Balco AB prototype and test its services only within in the company’s business premises. The company also building structural prototypes which are tested in the company's facilities to see if it meets the exact customers’ needs, thereafter various specifications are also verified in the process”.

Development Stage (Reactive)

4. How does this company work closely with customer in the service development after the new idea in accepted?

“The Company does not frequently integrate customers during prototyping and testing stages but recognize that the design stage (idea generation) is where the company makes sure customers’ needs are integrated and handling carefully upon approvals”.

5. How does your customer relationship influence the decisions taken in the development stage?

“Customer’s relationship influences their decision positively, by customers saying out their needs at the early stages (mostly required) but then it is up to the company to make sure that those needs are met and customers are satisfied”.

6. What does this company take into account to effectively capture the overall customer’s spoken needs during development stage?

“Balco have able hands that does front & back reviews about customers’ needs, the persons sits down to draw plans and strategy aim to make sure that those needs that will be beneficial to the company in the longer terms are incorporate in this stage”
Implementation Stage (Proactive)

1. How does the company proceed with implementation once a new service prototype is developed?

“The Company always have regular meeting with all sales person, market managers and product managers within Sweden converge in its headquarters Vaxjo or sometimes to its branch abroad. At such frequent meetings, market managers show the new products to sales persons, while most times sales persons bring up new ideas which product managers in respective market convey back to the product development department to see to those ideas. At a later period, information is passed to the sales persons to inform them about possible outcomes”.

2. What are the procedures this company employ to review all service specifications before a service is ready to be delivered?

“Balco market managers does internal reviewing by have frequent contact with development department and sales persons to ensure that the agree specification discuss during board meeting are in accordance to requirement”.

3. How does the company integrate (incorporate) customer’s feedback after the service is delivered (utilized) into solving future needs?

“Balco AB have a system base run by a firm, their activities are to make follow ups when services are delivered. They ask as much as possible to obtain information from the customer on what they think about the new service. Mr. Kristian Stenfelt pointed out the strategy have helped them tremendously in development and coming up with new products”.

4. Can you explain to what degree can the fulfillment of customer unspoken or future need impact on your company’s business activities?

“It has made the company grow today and has become amongst the best in balcony design and building in various markets they operate today”.

Implementation Stage (Reactive)

5. What is the importance of reviewing all aspects of a new service with customers?

“It is important for the Balco in order to build customer trust and clear their doubts. The Company then proceeds and makes a plan about the new product and gets them out to sale
persons; informing them what is on progress and also reviews specification through its sales meetings”.

6. **Can you explain communication and logistic processes involve with working closely with customers in satisfying their spoken (expressed) needs?**

“The Company possesses and works with ISO certifications, meaning that Balco have a clear process and structures in each department and everyone get to know what to do and what they should deliver when there is a process going on”.

7. **Can you explain in your opinion the prospective advantage of integrating customer by reacting to their spoken needs in order to create satisfaction?**

“The company stands in honesty to customers in order to build its brand name. Customer spoken needs have helped the company grow but most vitally is having the will to listening to customers as it is important for Balco AB, and this is part of the success story today”
# CASE (4) – ARCOMA-IMIX AB

Name: **Linda Ungsten**

Position: Project Manager (R&D, Marketing and Customer Management)

Experience in this company: 5 years

Experience in the industry: 12 years

i. **How does your company ascertain when to act proactively when identifying customer’s future needs?**

“The company look at sales to see if there is need to for changes, looks at competitors in the market to see what they are introducing, internet and going to product exhibitions (trade fairs) in order to keep in touch of what going on in the market and also see current trends of products in order to ascertain time to act proactively”.

ii. **How does your company identify when to act reactively when responding to customer’s expressed needs?**

“By having regular contacts with their customers (dealers or OEM’s), they also have meetings with sales persons at the dealer side but most important having information from the service organizations because the company also employs second-line support as they get lots of information from the customers perspectives through the means. Also as her role as a project manager she makes frequent visit to hospitals to see aspects of customers need”.

**Idea Generation Stage (Proactive)**

1. **How does the company generate a new service idea?**

“The company has serial groups that work co-coordinately with each other; R&D department, product managers, sales representatives from different market and the CEO. They have product council meetings by looking at the present market to identify potential areas of need or improvement. Lastly the body then sets priority with some certain time frame for its R&D department to initiate and build up the new ideas”.

2. **How does the company anticipate customer’s future needs?**

“Sales persons (marketers) are very important for the company as the company focuses more on technical aspects of new product development, but then sales persons are closer to their
customers and remits information from customers back to the company which also helps the company in anticipating customer’s future needs”.

3. In what way does the company appreciate customer’s potential influencing this new idea?

“The Company believes customer’s potential influence them to a certain degree, but them also bear in mind that customer’s ideas are most times very difficult to attain or might seems too complex. The company is a growing company and they must prioritize their objectives by taking decision on what the market requires or what they can do or ideas they believe are profitable”.

Idea Generation Stage (Reactive)

4. How does this company work with customers when they initiate a new service idea or express their current (articulated) needs?

“When their customer comes up with idea (e.g. OEMs), the company makes pre-studies, development plans and if deemed profitable, they make a business analyses, setup time schedules, involving R&Ds and making sure the idea fits its market specifications”.

5. How does this company work closely with customers to help cultivate this new idea?

“Arcoma AB create decision gates by involving its CEO and customers representative, they both review the ideas and then decide on how to move further with the project or not”.

6. How does this company assure its customer that the co-created new idea can solve its existing need?

“The company creates various models; industrial designing, creating prototypes shipped to customers to have a go at it or sometimes inviting the customer to the company’s headquarter to show them what the new product is like. The company makes its internal validations and customers are expected to make their validations to ensure that the new product can solve the impending needs”.

Development Stage (Proactive)

1. How does the company advances with the service development once a new idea meets customer’s requirements?

“The company’s products contain many inputs (mechanical, electrical, software, quality regulation etc.). The company sets up a well-defined project team to work on the systems
requirement, specifications and they endeavor integrate the idea as much as possible which is very important for the company. When you do a good systems requirement and specifications by also creating a lock-in, there are greater chances to succeed”.

2. How do co-operation activities go on with the new ideas (within and with lead-user/customers)?

“It depends on the class of customers they deal with in certain project; which makes it’s a little different on the several customer groups they have. To their main customers (e.g. OEM’s), the company engages in video conferencing and gets value by also meeting them face to face in some situations. Linda Ungsten believes the process help both the company and its customer see same things and aid the possibility of moving to the same direction in most cases”.

3. How is the prototype designed and tested to ensure embedded customer needs are Integrated?

“The company creates less expensive prototypes to bring down cost and also ensure all specifications and forms are in the correct requirements. The company also sends 3D pictures and drawings to the customers if related to a specific project. The company only does it prototype testing internally and rarely involve customers in the process because of the industry the company is into does not encourage customer's engagements in prototype testing”.

Development Stage (Reactive)

4. How does this company work closely with customer in the service development after the new idea in accepted?

“The company has several dealers and the dealers have customers in their respective markets. When a product is for its general markets, they cooperate and work closely with dealers by forwarding photos. The company also invites it dealer to exhibitions in special locations where they show them prototypes and receive back comments”.

5. How does your customer relationship influence the decisions taken in the development stage?

“It influences the company's decision making to a certain level by their recommendation in exhibitions; the company goes back, reflects on comments and reviews its product before taking its final resolution on how product will be like”.
6. What does this company take into account to effectively capture the overall customer’s spoken needs during development stage?

“Customer needs and lists are much which can go on to say, the company looks at those needs, makes its own judgments on requirements, its gains and what are the implication if they don’t capture those needs (e.g. drop in sales) before the company determines whether to pursue those spoken needs or not. The company also has its basic products and has options to customers (dealers or OEM’s) when they require an explicit specifications or products”.

Implementation Stage (Proactive)

1. How does the company proceed with implementation once a new service prototype is developed?

“The Company works coordinately from project unset with stages and crucial decisions are taken at these stages. Board meetings also make approvals for go head and they ensure they have early implementations stages at various departments before going ahead with any new project ideas or plans. These involve back and forward from R&D departments and production department”.

2. What are the procedures this company employ to review all service specifications before a service is ready to be delivered?

“The company employs three validations systems to ensure quality requirements are intact according to customers and market specifications before going into the actual production. The company works hard to release new prototypes in time for its yearly exhibitions which is essential to enable embedded quality requirement are integrate before the actual products in release into the market and also to attract customers attention to its future products”.

3. How does the company integrate (incorporate) customer’s feedback after the service is delivered (utilized) into solving future needs?

“The Company has routines for change request systems in place and if there are feedbacks from customers, the company classifies them to see if it’s urgent, safety related or business risk related. The Company also prioritizes those feedbacks by how urgency or their usefulness”.

4. Can you explain to what degree can the fulfillment of customer unspoken or future need impact on your company’s business activities?
“It is essential to the company; as it is the traditional of their projects and has a meaningful effect because as cost are increasing, if the company does not have the right inputs from the start to work with, they might end up with products that are might be difficult to sell”.

**Implementation Stage (Reactive)**

5. **What is the importance of reviewing all aspects of a new service with customers?**

“It is important because their dealers do not sell only their products; they have other competitor’s products they sell in their markets. Therefore by reviewing aspects of the product development with customers; builds trustworthiness between both parties. As customers see the important to buy the product and know that the company can also support them with the right marketing materials to sell the products to their end customers”.

6. **Can you explain communication and logistic processes involve with working closely with customers in satisfying their spoken (expressed) needs?**

“The project manager coordinates meetings internally with important persons in the particular projects and they involve customers when necessary by briefing them on specific development if it is related to the particular customer or generally to their dealers”.

7. **Can you explain in your opinion the prospective advantage of integrating customer by reacting to their spoken needs in order to create satisfaction?**

“It is important because the Company learns a lot from customers by conversation, learns more about the business environment and it gives me personally (Linda Ungsten) more confidence to make decisions as a manager, empowerment and enablement to learn more about the market and customers’ needs in general”.
Appendix (C)  An Overview of the Four Cases Innovation

Case (1) - IV-Produkt AB

EcoHeater Home Concept
– The simple solution for energy-efficient buildings in renovation and new construction projects

EcoHeater is a series of high efficient extract air handling units with integrated, stepless, capacity-controlled heat pump. In combination with control equipment customized for residential buildings, the system offers you all the benefits for energy-optimized heat recovery.

- Very low energy usage
- Simple to operate by property owners
- Simple to install by contractors
- The installation work does not disturb the tenants

For more, visit: www.ivprodukt.se
Case (2) – MicroPower AB

MTM-HF

SOME ADVANTAGES FOR THE MTM-HF CHARGERS

• Can charge all types of tractionary batteries
• High efficiency, up to 94%
• Low weight and small volume
• Advanced recharging control for best battery lifetime
• Display and keyboard permits simple adjustments, fault finding and statistics
• High power factor permits low mains fuse
• Fast charging

MTM-HF is a high frequency, programmable, regulated charger with optimized charging curves for standard- and special batteries. This means that the battery is fully charged in the shortest possible time with low water consumption and minimum wear and tear in the battery. Thanks to the high frequency technique the charger has low weight, small volume and high efficiency.

Function
The regulated charger MTM-HF can, independently of variations in the mains voltage, charge with a constant current and constant voltage in sequences prescribed by the manufacturer of the battery. This means that the charger can be used more effectively, leading to shorter charging-time compared with a Wa-charger with the same nominal current. MTM-HF is also equipped with a real time clock.

Display and keyboard
Via the keyboard the customer can easily navigate through the menu and get information about charging time, number of recharged Ah etc.
Changes of the charging curve can be done locally without updating of the programs. All information is presented in plain language in the display. The customer has the possibility to choose between three different language versions.

Charging curves
The MTM-HF charger has a large number of preprogrammed charging curves for different types of batteries and applications. The selection of charging curve and type of battery can easily be programmed from the keyboard. All parameters are automatically changed when the charging curve and battery is programmed. Normally, these adjustments are made by Micropower at the customer’s request.

Statistics
The charger stores the five most recent charges, deviations and error messages and the charging profile together with the times. All information can be read in the display.

For more, visit: www.micropower.se
Case (3) – Balco AB

For more, visit: www.balco.se
Case (4) – Arcoma-IMIX AB

Overhead Tube Crane

The innovative design creates one of the lightest, easiest to operate Overhead Tube Cranes (OTC) in the industry. A motorized vertical drive allows servo tracking to both the wall stand and table. Available in multiple floor to ceiling height options to create the optimal solution for your facility. DAP-meter for registration of patient dose, Laser light for easier positioning, Different X-ray tubes and Different length of the ceiling rails.

For more, visit: www.arcoma.se
On the 1st of January 2010, Växjö University and the University of Kalmar merged to form Linnaeus University. This new University is the product of a will to improve the quality, enhance the appeal and advance the development potential of teaching and research, at the same time as it plays a prominent role in working closely together with local society. Linnaeus University offers an attractive knowledge environment represented by high quality and a competitive portfolio of skills.

Linnaeus University is a Modern, International University with the emphasis on the desire for knowledge, creative thinking and practical innovations. For us, the focus is on proximity to our students, but also on the world around us and the future ahead.