Department of Industrial Engineering and Management

Linkages between employee and customer perceptions in business-to-business services

- Towards positively deviant performances

Merja Fischer

Aalto University

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Linkages between employee and customer perceptions in business-to-business services - Towards positively deviant performances

Merja Fischer

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Abstract

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Abstract

This dissertation studies how employees' perceptions of their supervisors, workplace climate, internal quality and personal engagement impact on customers' perceptions of service quality in a business-to-business service. This thesis builds on existing service marketing literature and expands it by examining whether the types of interactions between service employees and customers have an impact on the structure of the service profit chain (SPC) model.

The empirical data of this study concern 38 service business units worldwide in an international corporation in the field of power solutions for the marine and energy market. The research data consists of employee data collected in 2007 (n=2403) and customer data collected between 2007- 08 (n=1987). The statistical method of structural equation and path modeling are used in the theory testing.

In addition to the theory testing of a model explicating employees' perceptions of their organization and customers' perceptions of service quality, the study makes a theoretical contribution by connecting the service marketing perspective with some insight from positive organizational scholarship (POS). The study explores the means to foster positively deviant service businesses using the broaden-and-build theory of positive emotions by Fredrickson as well as other studies and theories in positive organizational scholarship.

This study makes three major contributions. Firstly, in the first part of the work, the linkages between employee and customer perceptions using data from two employee groups, account managers and field service engineers, are discussed and statistically verified using the empirical data presented. The study shows the relevance of the physical and psychological closeness of the employees and customers as a key parameter for the structure of the linkage model in a business-to-business context. Thus the results presented in this thesis suggest that account managers' perceptions of workplace climate predicts customers' perceptions of service quality, whereas in the case of field service engineers, their personal engagement predicts customers' perceptions. Secondly, the thesis makes a theoretical contribution by proposing a POS-based perspective on service businesses indicating four key dimensions to be addressed when developing what is called positively deviant service businesses.

Thirdly, a novel model, the model of positively deviant service businesses is introduced to linkage research, along with a new concept of climate for positivity.

Keywords Linkage research, service profit chain, positive emotions, the model of positively deviant service businesses, climate for positivity

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Tiivistelmä

Tämä väitöskirjatyö tutkii miten työntekijöiden kokemukset esimiehen käyttäytymisestä, työilmapiiristä, sisäisestä laatutasosta ja henkilökohtaisesta sitoutumisesta vaikuttavat asiakkaiden arvioihin palvelun laadusta yritysten välisessä palveluliiketoiminnassa. Tutkimus täydentää aikaisempaa kirjallisuutta palvelun arvontuoton muodostumisesta, tutkimalla onko kanssakäymisen luonteella merkitystä arvontuottomallin rakenteeseen. Testattava arvontuottomalli perustuu työntekijöiden organisaatiokokemuksista sekä niiden vaikutuksista asiakkaiden käsityksiin työntekijöiden kyvystä osoittaa palvelualttiutta ja myötätuntoa, rakentaa luotettavuutta ja luottamusta asiakassuhteessa.

Tutkimuksen empiirisen perustan muodostava aineisto koottiin maailmanlaajuisen laiva - ja energiayhtiön 38 maan huoltoyksiköstä. Työntekijäaineisto on vuodelta 2007 (n=2403) ja asiakasaineisto on kerätty vuosina 2007- 2009 (n=2357). Teorian testauksessa käytettiin sekä rakenneyhtälö- että polkumallinnusta.

Palvelun arvontuottomallin testauksen ja sitä koskevan analyysin ohella tutkimus synnyttää uutta teoriaa yhdistämällä näkökulmia palveluliiketoimintatutkimuksesta ja positiivisesta organisaatiotutkimuksesta (POS). Tutkimus soveltaa Fredricksonin Avarra ja rakenna – teoriaa positiivisista tunteista palveluliiketoiminnan kontekstiin, tavoitteenaan hahmottaa, miten keskeisten positiivisen organisaatiotutkimuksen teorioitten ja mallien identifioimat muuttujat luovat pohjan positiivisesti poikkeaville tuloksille palveluliiketoiminnassa.

Tutkimus tuotti kolme päätulosta. Yhtäältä työntekijän ja asiakkaan kokemusten väliset yhteydet pystyttiin todentamaan empiria-aineiston avulla tilastollisesti merkittäviksi. Samalla paljastui, miten työntekijöiden ja asiakkaiden välinen fyysinen ja psykologinen läheisyys vaikuttaa arvontuottomallin rakenteeseen yritysten välisessä palveluliiketoiminnassa.

Keskeinen tutkimustulos on, että asiakasvastuupäälliköiden kokemukset työilmapiiristä vaikuttavat asiakkaan kokemukseen palvelun laadusta, kun taas huoltoinsinöörin henkilökohtainen sitoutuminen ennakoi asiakkaan laatu kokemusta. Toiseksi tutkimus luo uutta teoriaa palveluliiketoiminnan arvontuoton tutkimuskentässä kytkemällä POS-tutkimuksellisen lähestymistavan yritysten väliseen palveluliiketoimintaan ja esittämällä neljä keskeistä ulottuvuutta kehitettäessä positiivisesti poikkeavaa palveluliiketoimintaa. Kolmanneksi, tutkimus tuottaa palveluliiketoiminnan tutkimusalueelle uuden mallin, positively deviant service businesses, sekä uuden käsitteen, positiivinen ilmapiiri.

Avainsanat Linkage tutkimus, palveluliiketoimintatutkimus, positiiviset tunteet, positiivisesti poikkeava palveluliiketoiminta, positiivinen ilmapiiri

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My research passion has been to examine how the quality of interactions may foster the creation of successful businesses within a service organization and with its customers. This passion has emerged from the urgency to find ways of creating flourishing organizations with happy employees and happy customers.

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It is all about the way we treat each other, both in our private lives as well as in the workplace.

Merja Fischer

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Working Definitions

	Definition (original citation)	Source
Climate	Climate, in contrast, portrays organizational environments as being rooted in the organization's value system, but tends to present these social environments in relatively static terms, describing them in terms of a fixed (and broadly applicable) set of dimensions. Thus, climate is often considered as relatively temporary, subject to direct control, and largely limited to those aspects of the social environment that are consciously perceived by organizational members.	(Denison, 1996:624)
Conceptualization	To understand fully what the theory means and to arrive at an appropriate set of observations for testing it, one must know the meaning of these concepts. Thus, the initial step in measurement is to clarify the concepts embedded in one's theories and hypothesis with words and examples, ultimately arriving at conceptual or theoretical definition.	(Singleton & Straits, 2005:77)
Customer perceived quality	The customer's overall assessment of the standard of the service delivery process.	(Hellier, Geursen, Carr, & Rickard, 2003:1766)
Customer satisfaction	The degree of overall pleasure or contentment felt by the customer, resulting from the ability of the service to fulfill the customer's desires, expectations and needs in relation to the service.	(Hellier et al., 2003:1765)
Customer loyalty	The degree to which the customer has exhibited, over recent years, repeat purchase behaviour of a particular company service; and the significance of that expenditure in terms of the customer's total outlay on that particular type of service.	(Hellier et al., 2003:1765)
Learning organizations	Organizations where people continually expand their capability to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set fee, and where people are continually learning how to learn together	(Senge, 2006:3).
Linkage research	Linking research involves integrating and correlating data collected from employees with data in other key organizational databases. The purpose of linkage research is to identify those elements of the work environment-as described by employees-that correlate, or link, to critically important organizational outcomes, such as customer satisfaction and business performance.	(Wiley, 1996:330)

	Definition (original citation)	Source
Meaning	Is established through socialization to a variety of identity groups that converge in the workplace.	(Denison, 1996:624)
Negative affectivity (NA)	Negative affectivity (NA) exists when anxiety and anger are present.	(Cropanzano, Weiss, Hale, & Reb, 2003:832)
Operationalization	An operational definition describes the research operations that will specify the value or category of a variable on each case.	(Singleton et al., 2005:78)
Operationalization process	Is a process, which transfers theoretical concepts into empirical data language.	(Ketokivi, 2009:29)
Personal Engagement	Personal Engagement is the harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances.	(Kahn, 1990:694)
Positive affectivity (PA)	Positive affectivity (PA) is expressed as enthusiasm and excitement.	(Cropanzano et al., 2003:832)
Positive deviance	Positive deviance is defined as intentional behaviors that depart from the norms of referent group in honorable ways.	(Spreitzer & Sonenschein, 2003:209)
Positively deviant performance	Positively deviant performance means outcomes that dramatically exceed common or expected performance.	(Cameron, 2008:2)
Positive organizational scholarship (POS)	POS is distinguished from traditional organizational studies in that it seeks to understand what represents and approaches the best of the human condition.	(Cameron, 2003:4)
Psychological climate	Psychological climate defines how he/she is psychologically impacted by the working environment.	(James & Jones, 1974)
Relationship marketing	Relationship marketing occurs when an organisation engaged in proactively creating, developing and maintaining committed, interactive and profitable exchanges with selected customers or partners over time.	(Harker, 1999:16)
Service business	A firm that adopts a service perspective will consider itself a service business.	(Grönroos, 2007b:7)
Service climate	The shared employee perceptions of the policies, practices, and procedures that get rewarded, supported, and expected with regard to customer service and customer service quality.	(Schneider & White, 2004:100)
Service leadership	Service leadership is leadership that communicates a commitment to high levels of service quality.	(Schneider, Ehrhart, Mayer, Saltz, & Niles-Jolly, 2005:1018)
Service perspective	A firm has a strategy to combine product and service components, information, personal attention and other elements of customer relationship into a total service offering. The aim (e.g. strategy and prioritization of management) is to provide a value generating service for customers.	(Grönroos, 2007b:7)
Service process	Is the process, in which the service is emerging for, and perceived by, customers, often in interactions with customers.	(Grönroos, 2007b:14)
Service profit chain (SPC)	Service profit chain establishes relationships between profitability, customer loyalty, and employee satisfaction, loyalty and productivity.	(Heskett, Jones, Loveman, Sasser Jr, & Schlesinger, 1994:164)

	Definition (original citation)	Source
Servitization	Companies are offering fuller market packages or "bundles" of customer-focused combinations of goods, services, support, self-service, and knowledge.	(Vandermerwe & Rada, 1988:315)
Socialization process	The socialization process describes how employees learn to fit into a new organization or job, it is a process through which an individual learns those attitudes, behaviors, and knowledge that are expected of them in a certain role.	(Chao, 2005)
Spatial boundaries	Spatial boundaries are conditions restricting the use of the theory to specific units of analysis (e.g., specific types of organizations).	(Bacharach, 1989:499)
Systems intelligence (SI)	Involves the ability to use the human sensibilities of systems and reasoning about systems in order to adaptively carry out productive actions within and with respect to systems.	(Hämäläinen & Saarinen, 2010:16)
Systems thinking	For many, the solution lies in systems thinking- the ability to see the world as a complex system, in which we understand that "you can't do just one thing" and that "everything is connected to everything else."	(Sterman, 2001:9-10)
Relationship marketing	Perspective based on cooperation in order to facilitate a mutual creation of value.	(Grönroos, 2007b:28).
Repurchase intention	The individual's judgment about buying again a designated service from the same company, taking into accounts his or her current situation and likely circumstances.	(Hellier et al., 2003:1765)
Organizational virtuousness	Virtuousness in organizations, therefore, refers to transcendent, elevating behavior of the organization's members. Virtuousness enabled by organizations refers to features of the organization that engender virtuousness on the part of members…yet three key definitional attributes are associated with virtuousness that can help explain its relevance in organizational studies: moral goodness, human impact, and social betterment.	(Cameron, Bright, & Caza, 2004:758)

Abbreviations

A2A	Actor-to-Actor	
ASA	Attraction-selection-attrition model	Schneider (1995)
B-to-C	business-to-consumer	
B-to-B	business-to-business	
CFA	Confirmatory factor analysis	
CFI	Comparative fit index	
EFA	Explorative factor analysis	
FS	Field service engineer	
GLS	General least square estimation	
HRM	Human resource management	
MLE	Maximum likelihood estimation	
POS	Positive organizational scholarship	Cameron (2003)
PWB	Employee psychological well-being	(Wright & Cropanzano, 2004:341)
SPC	Service profit chain	Heskett (1994)

1 Introduction

At the World Economic Forum's annual meeting in Davos, Switzerland, January 2011, the discussion was not just about money – but also about human well-being. Dan Esty (2011) moderated a discussion session focusing on the urgency to revise the metrics used by nations, pointing out that the current measurements such as the Gross National Product (GNP) are insufficient for the purpose of measurements of other factors contributing to human well-being. The discussion expressed the opinion that measurements such as happiness, sense of achievement and relationships as proposed by The United Nation's Development Program (UNDP) would be more relevant. These measurements are based on recent statistics provided by the human development index (HDI), which look beyond the Gross Domestic Product (GDP) to a broader definition of well-being. HDI provides a compound measure of three dimensions of human development: living a long and healthy life, being educated and having a decent standard of living. HDI offers a wider perspective for viewing human progress and the complex relationship between income and well-being (UNDP, 2010).

Similarly, Himanen (2010) argues that the foundation of national welfare is dependent on the respect between individuals and the quality of interactions. Innovations and productivity cannot thrive if the underlying behavior and attitudes in society reflect cynicism, individual competition and cliques (Himanen, 2010). Similar indications were also found in a survey conducted in 27 EU countries regarding European workers' experiences in their working lives and working conditions (appendix 2). Only 47 % of employees in this study reported that they received assistance from their colleagues. Furthermore, 37 % of supervisors were only willing to assist their subordinates in cases where they were asked to do so, not by taking the initiative themselves (EU, 2007). These studies emphasize the importance of recognizing the human element as an essential factor contributing to the quality of life of individuals as well as to the level of national welfare.

Similarly, recent studies on industrial marketing management emphasize the increasing importance of the role of the human element in service businesses. Ballantyne, Frow, Varey, & Payne (2011) argue that dialogical communication such as collaboration and learning together, embodies the potential to reveal new value creating possibilities for the industrial world. Likewise, Ramaswamy (2011) challenges the premises of services, claiming that service value is emerg-

ing from the human experience in interactions rather than from the efficiency of the service process. Further to this, Berry (2011) claims that the future competiveness of a service company is measured by the strength of its relationships and reciprocity commitments between its customers, employees, suppliers and other stakeholders such as communities.

Both leadership strategy and team support are important elements for a successful service business. Leadership strategy drives the chain of effects that impact on employees' perceptions, customer satisfaction and service revenue (Schneider, White, & Paul, 1998b). Furthermore, recent research has shown that effective management of the organizational climate has been seen as a necessary condition for the development of high-quality customer service (Streukens, De Ruyter, Van Hoesel, & De Jong, 2010). In addition to this, employees' perceptions of the support from their team members predict customer satisfaction (de Jong, de Ruyter, & Lemmink, 2004:27) and business unit effectiveness (Ehrhart, Bliese, & Thomas, 2006).

Hence, increasing research on the human element confirms that support from supervisors and colleagues are focal for the success of an organization. Thus, a profitable service organization understands that managing employees' perceptions regarding their own organization is important; what employees experience in their workplace is echoed in customer experiences (Harter, Schmidt, & Hayes, 2002; Pugh, Dietz, Wiley, & Brooks, 2002).

Moreover, a fairly recent paradigm, Positive Organizational Scholarship (POS), has appeared that introduces positive behaviors as a means of building positive spirals in human interaction and sustainability in organizations (Dutton & Ragins, 2007; Fredrickson, 2003a; Fredrickson & Joiner, 2002; Walter & Bruch, 2008). The POS research focuses on the opportunities and strengths rather than weaknesses and pitfalls (Cameron, Caza, & Bright, 2002). POS deviates from traditional organizational studies in that it seeks to portray what is understood by the idea of what represents and approaches the best of the human condition in the workplace, rather than dwelling on the negative aspects or malfunctions (Cameron, Dutton, & Quinn, 2003:4) . This thesis takes the opportunity to integrate theories in positive organizational scholarship with service business and organizational climate research, and suggests how relationships in the workplace may contribute to improving overall business performance. Positive Organizational Scholarship (POS) contributes to the basis of this thesis by advocating that organizational outcomes can be positively influenced by adding elements of POS to existing service business research.

1.1 Adopting a Service-Dominant Logic in B-to-B Manufacturing

The context of this thesis is in the service business. Service business is understood in the sense of the co-creation of the entire value in the supplier - customer chain, as characterized by Grönroos (2007a). According to Vargo & Lusch (2004b:326) service is an application of specialized competencies, skills and knowledge, through deeds, processes and performances for the benefit of others. They refer these specialised competencies to operant resources. The review of Edvardsson, Gustafsson and Roos (2005) distinguishes three aspects that char-

acterize service. Firstly, service is a perspective on value creation rather than a type of market offerings. Secondly, the focus is on value through the lenses of customers. The third aspect is the co-creation of value with customers, this being interactive, processual and experiential. This relational nature forms the basis for characterizing service (Edvardsson et al., 2005:118).

Since the first classical economics theories, in the 19th century and the beginning of the 20th century, the exchange of goods has dominated the conduct of business. Currently, in countries with a high cost of living, companies are increasingly looking for cost efficient offshore manufacturing facilities, with simultaneous changes occurring in the dominant logic of the marketing of goods. However, the provision of service to existing customers is an excellent way to increase a manufacturing company's profitability and to integrate customers (Grönroos, 2007b). This requires a shift in the focus of manufacturing companies, from product costing towards supporting customers in their value creation process (Ballantyne & Varey, 2008; Grönroos, 2007a). Customer value creation is an outcome of a co-creation process which is built on interaction (Grönroos, 2010b). The intended outcome in this interaction is productivity and profitability both for the customer and the supplier (Gummesson, 1998).

While service orientation is emerging in the business strategies of manufacturing companies, surveys such as that conducted by Vargo and his collegues (Vargo & Lusch, 2004a, b; Vargo, Maglio, & Akaka, 2008b) have shown that the service-dominant logic requires new strategies and practices in order to manage the interaction between a company and its customers. This change requires companies to understand how services and manufacturing strategies differ. Thus, the shift in manufacturing towards a more service business oriented approach is not that simple. Grönroos and Helle (2010:565) emphasize that in order to make such a quantum leap to reach exclusive competitiveness within services, the entire business, including the manufacturing operations and other functions of a company should apply a service perspective.

Furthermore, the recent discussion on value creation in services underlines that value creation is a process where value is mutually created. This brings about the biggest difference between service logic and goods logic. Goods logic is based on the value at point of sales, meaning value-in-exchange, whereas service logic is based on the value-in-use, which is based on the realised value, as recognised by the customer (Grönroos, 2010b). Thus, value is created by the customer during their usage of the resources available (Grönroos & Ravald 2011). Suppliers have the role of facilitating and even participating to the value creation process. Service value accrues over time while all activities between supplier and customer have an impact on the accumulated value-in-use as perceived by the customer (Grönroos, 2010b).

Several researchers have recently emphasized the systemic orientation in services (Maglio, Kieliszewski, & Spohrer, 2010; Spohrer, Maglio, Bailey, & Gruhl, 2007; Vargo & Lusch, 2011). Spohrer, Maglio, Bailey and Gruhl define "a service system as a value-coproduction configuration of people, technology, other internal and external service systems, and shared information" (2007:7). They argue that service systems have both internal and external structures in which the value is coproduced with other service systems, directly or indirectly, for mutual benefit. This systemic orientation implies the need to understanding on a more macro level, how different actors (firms, customers, consumers)

can participate and collaborate in a services system for the benefit of the whole. (Vargo et al., 2011:182).

This systemic orientation has brought up the issues of usage of the categorization of B-to-C and B-to-B in marketing (Gummesson & Polese, 2009). Vargo et. al (2011) challenge the validity of this categorization and suggest starting to use actor to actor (A2A) instead. Vargo et. al (2011) justify their suggestion by claiming that every economic actor is a resource integrator (Vargo & Akaka, 2009) who provides potentially new, exchangeable resources through integration (Vargo et al., 2011).

Research on the service business links studies from marketing, operations management, human resource management, psychology, leadership and customer loyalty (Dean, 2004a). During recent years, human interaction within an organization and with its customers has emerged as one of the key competitive advantages (Hennig-Thurau, Groth, Paul, & Gremler, 2006; Koys, 2001). Pfeffer's (2005:96) studies on successful service businesses highlight the importance of how people are managed and sustained, further claiming that this cannot be imitated by competitors.

Additionally, organizations are increasingly integrated through different types of networks formed by social and interpersonal structures (Dyer & Hatch, 2006; Kohtamäki & Vesalainen, 2008).

1.2 Perspectives of the Mutual Co-creation of Service Value

This study concentrates on examining how employees' perceptions of their organization impact on customers' perceptions of the service quality. Furthermore this study takes the opportunity to suggest such positive means, as recognized by positive organizational scholarship (POS) studies and theories that could foster the creation of mutually beneficial value. Figure 1 illustrates the framework of this thesis based on theoretical assumptions.

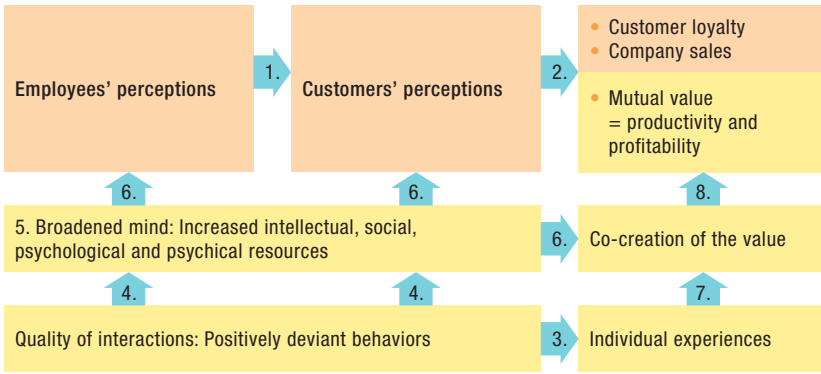

Figure 1. Key concepts of the study and their relationships.

The orange boxes in Figure 1 describe theoretical assumptions, based on literature reviews in Chapters 2 and 3, on employee and customer perceptions in creating service value. The yellow boxes emphasize the potential of incorporating

positive organizational scholarship studies and theories, discussed in Chapter 6, as the means of facilitating positively deviant service businesses. It is suggested that individual experiences in interactions foster the creation of service value, resulting in increased productivity and profitability. Statements to be discussed in this thesis:

1. *Employees' perceptions* of the practices and procedures, as well as behaviors of other members of the organization, impact on customers' perceptions of the service quality.(theory testing in chapter 5)
2. *Customers' perceptions* of the service quality provided by the suppliers' employees impact on customer loyalty and company sales.[1]
3. *Qualities of interactions* such as positively deviant behaviors create positive experiences among the actors in the service profit chain. (theory building in chapter 6)
4. *Positively deviant behaviors* create positive meaning and positive emotions among others and broaden their minds. (theory building in chapter 6)
5. *Broadened mind increases personal resources* such as intellectual, social, psychological and psychical resources. (theory building in chapter 6)
6. *Increased personal resources* create positively deviant performances, such as trust in self and others, creativity, feeling of oneness and seeing the bigger picture, increased personal resources impact on individual well-being and foster his/her positively deviant behaviors by enhancing mutually beneficial processes of the co-creation of the service value. (theory building in chapter 6)
7. Positively deviant behaviors originating from the *individual experiences* enhance the process of the co-creation of value in the service profit chain. (theory building in chapter 6)
8. The process of co-creation of value facilitates the foundation of the *mutual value* in service businesses i.e., productivity and profitability. (theory building in chapter 6)

The literature reviews presented in Chapters 2 and 3 consist of service marketing studies and theories from the B-to-C as well as from the B-to-B context. The service profit chain and linkage research has its foundation in the B-to-C context. However, the recent discussion on industrial marketing literature suggests that the separation of B-to-B and B-to-C is obsolete and instead it should be called A2A (Vargo et al., 2009). Thus, it is of scientific interest to test how employees' perceptions of their organization impacts on customers' perceptions of service quality using data from a B-to-B service company and compare the results to the research conducted in B-to-C context. In the end, service businesses are by their very nature people oriented businesses where competitive advantage is created by individuals in customer interactions (Grönroos, 2007b; Swartz & Iacobucci, 2000).

In the next section, the two key literature concerning service profit chain and linkage research, is explicated. These studies and theories support the examination of point 1 in Figure 1.

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1 Research group's consolidated research results are presented in Appendix 14.

1.2.1 Service Profit Chain and Linkage Research

The integration of several research disciplines has increased the awareness that the profitability of a service business is an outcome of a process (Heskett, Jones, Loveman, Sasser, & Schlesinger, 1994). This process integrates internal elements, like organizational climate and employee behaviors with external elements, such as customers' perceptions of service quality. Two important fields of research are of special interest: service profit chain[2] (SPC) and linkage research. These two fields of research are relevant because they explore how organizational processes and behaviors influence customers' perceptions and behaviors. Service profit chain (SPC) research concentrates on the structure of the service process, whereas linkage research measures and examines the existence and strengths of the links in the SPC framework.

Heskett et al. (1994) introduced service profit chain thinking into service literature. They describe the service profit chain (SPC) as a conceptual framework which integrates leadership, suppliers' processes and procedures, employees' behaviors and customers' expectations, resulting in productivity and profitability. They state:

> Service organizations need to quantify their investments in people – both customers and employees. The service profit chain provides the framework for this critical task. (Heskett et al., 1994:170)

Several researchers, Wiley (1996) among others, have studied the existence and strength of the linkages in the service profit chain, in order to understand the impacts of the human element on successful service business. This research, called linkage research, involves integrating and correlating employee and customer data with other key organizational databases, such as customer loyalty and net sales.

The purpose of linkage research is to identify the elements of the work environment – as described by employees–that correlate, or link, with critically important organizational outcomes, such as customer satisfaction and business performance (Wiley, 1996:330).

Bowen has recently published his view of a comprehensive linkage model (2008:164). This general model of linkages in the service profit chain as defined by Bowen is shown in Figure 2. In effect, the Bowen model of SPC is a depiction of a conceptual model of the linkages in the service profit chain between an organization and its customers.

The linkage model in Figure 2 describes how organizational outcomes are generated by customers' perceptions of employee behaviours and attitudes. It further suggests that employee behaviours and attitudes are affected by climate for service and climate for employee well-being, which in turn are impacted on by service leadership.

The linkage model depicted by Bowen (2008) is a fundamental theoretical postulation of the current theories in SPC and linkage research. Bowen does not, however, explicate in detail which concepts are embedded in different constructs of his model. Therefore this thesis will serve to shed light on making an effort to

2 Also written with a hyphen, service-profit chain, however the most recent articles and book by Heskett (2010) and other researchers use it without a hyphen.

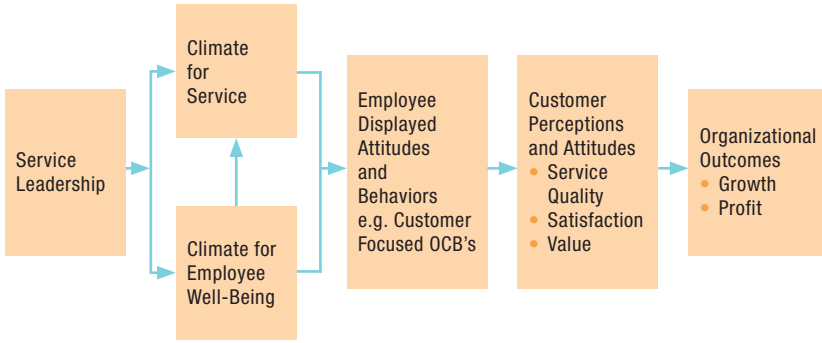

Figure 2. Linkages, internal and external with organizational outcomes (Bowen, 2008:164).

conceptualizing the constructs of the Bowen model with the help of existing SPC and linkage research and other relevant literature.

Several researchers have successfully tested some elements of the linkages in the service profit chain in the business to consumer (B-to-C) service context (Salanova, Agut, & Peiro, 2005; Schneider et al., 2005). Such studies do not exist in B-to-B service context. Even though, Brown and Chin (2004) found in their research on manufacturer's outsourced sales to independent sales representatives a modest link between sales representatives' job satisfaction and customer satisfaction. However, their research does not represent a normal B-to-B case, as the independent sales representatives work outside the service company.

In service literature, several researchers (Bowen, 2008; Dietz, Pugh, & Wiley, 2004) have proposed that supplementary studies are needed to better understand the moderators and boundary conditions in the service profit chain. Schneider and Bowen (1985:424) have suggested that boundary conditions such as physical and psychological closeness of employees and customers, are the factors predicting customers' perceptions. Further to this, Dietz, Pugh and Wiley (2004) found evidence that the frequency of customer contact moderated the effects of service climate on customer satisfaction.

Moreover, Bacharach (1989:499) suggests that in organizational science, every good theory includes boundaries that restrict the use of a certain theory to particular types of organizations. Most of the existing service profit chain studies have been conducted in B-to-C context, thus there is a clear call for examining if different types of organizational setups, having different boundary conditions, as is the case in B-to-B, would reveal additional information about the factors determining the structure of the linkage model. This thesis addresses this part in particular and fills the gap by examining linkages between employee and customer perceptions using data from two employee groups, account managers and field service engineers. These two employee groups differ in the way they encounter customers, one having a physical and psychological closeness with customers (field service) and the other contacting customers mostly by emails and phone (account managers).

1.2.2 Positive Organizational Scholarship

Positive organizational scholarship (POS) is introduced in Chapter 6 of this thesis as a means of enhancing the quality of interactions with a view to the creation of mutual value in service businesses as described in Figure 1.

Positive organizational scholarship provides a potential framework for understanding extraordinary behavior that benefits organizations as well as individuals. Cameron (2008:2) defines positive deviance as performance that dramatically exceeds common or expected performance. Scholars view it as the means of achieving something extraordinary (Cameron, 2008; Spreitzer et al., 2003). Furthermore, Spreitzer and Sonenschein (2003:209) claim that positive deviance in organizations is built through personal meaning, focus on others, self-determination, self efficacy and courage.

The research by Fredrickson (1998; 2001; 2003a) and Bagozzi (2003) has demonstrated that the circumstances fostering positive emotions is connected with optimal individual and organizational performance, in other words, to positive deviance. Further to his, Fredrickson (2004a) asserts that the positive emotions of members in an organization may have an influence on organizational functioning over time. Additionally, she proposes that positive emotions do not only signal optimal functioning, but create optimal functioning among individuals' themselves as well as those around them.

The psychological well-being of employees' has been reported as having a positive impact on individual learning as well as on problem solving capabilities (Cohn & Fredrickson, 2009a). Employees who report psychological well-being are inspired by the changes and express compassion towards each other (Boyatzis, Smith, & Blame, 2006). Further to this their readiness to accept a change is higher. Some scholars go as far as to conclude that it is difficult to find any other characteristics, outside a specific job related one, that would be more relevant to the success of an organization (Cartwright & Cooper, 2009).

Leadership has a focal role in building positivity in organizations and enabling positive deviance to emerge. Accordingly, Cameron (2008:21) suggests that leaders have to have intentional strategies to build a positive climate in their organizations. Schneider et al. (1998b) claim that a leadership's emphasis on a given topic such as service, quality or security, drives the organization members' behaviors and actions Thus, leaders have a key role in creating such an organizational culture that embodies positive means of promoting a positive organizational climate to emerge. Surveys such as that conducted by Schneider (2005) and Pugh, Dietz, Wiley and Brooks (2002) suggest that in service organizations, organizational climate and employee satisfaction predict customer satisfaction and company sales.

As noted before, collaboration and learning together is a key strategic choice in the B-to-B service context, providing new value creating opportunities (Ballantyne et al., 2011). Several researchers suggest that interaction between actors in the service profit chain contains the key to successful service businesses. Ballantyne et al. (2011) claim that interactions are the means to enhance the value creation process. Further to this, the quality of interactions has been found to be an important element in the creation of organizational climate that drives high performance (Dutton & Heaphy, 2003)

In service businesses employees and customers are in a close psychological and physical interaction (Oliva & Sterman, 2009) and customers "catch" the affect of employees through the interaction (Pugh, 2001). Thus, the opportunity for new value creation emerges through supplier-customer interactions.

Chapter 6 of this thesis integrates the SPC theories with positive organizational scholarship research and explores how positive deviance arises from the

research data[3] and finally suggests how it can be initiated in service businesses. Additionally, this thesis explores how theories in other fields like systems thinking could be applicable in the service context.

1.3 Extensions of the Current B-to-B Services Literature

This thesis takes the opportunity to extend the current B-to-B service marketing literature by proving novel insights to the following areas: (1) by introducing the tradition of linkage research practices from B-to-C service contexts into B-to-B services, (2) by examining how boundary conditions, such as physical and psychological closeness of service employees and customers may impact on the value creation process in services, (3) by suggesting the expansion of current propositions of service dominant logic by Vargo et al. (2010) and its extensions proposed by Grönroos (2010b). The extension suggested to the current service dominant logic is based on the means, as recognized in positive organizational scholarship that may enhance the quality and strength of interactions within service businesses, and thus creating positively deviant service businesses.

1.4 Research Design and Research Questions

The linkages between employee and customer perceptions in a B-to-B service business will be explored in this study with the aid of the massive data originating from the regularly used global surveys in the Wärtsilä Corporation. The employee survey data[4] was collected between 15.3–6.4. 2007 and consisted of 2403 individual employee responses. The customer survey data was collected between 7.4. 2007–31.12.2008 with 1987 individual customer responses. Customer data was collected after the employee data on the assumption that employee perceptions can have a long-lasting impact on customer perceptions and not only a momentary one.

This data provides a rich opportunity to contribute to and test theories of the existing SPC and linkage research in a business-to-business context. Two researchers, myself and Lauri Hyry, worked on the analysis to explore all the linkages in the model presented in Figure 2. This thesis will cover the examination of the linkages between employee and customer perceptions, whereas the study by Hyry (2010) covers linkages between customer quality perceptions and customer loyalty (repurchase intentions) as well as customer purchases (company sales)[5].

Figure 3 gives an illustration of the steps in the current research. The research process will start with the conceptualization of the linkage model depicted by

3 Research data is created by linking two survey data (employee and customer) together and examined for discrepancies. This data is used in the statistical analysis phase. Wärtsilä's employee and customer data from 38 business units globally.

4 The raw empirical data sets as they have been collected in the organizational surveys in Wärtsilä Corporation globally.

5 These two researches are the first attempt to link employee and customer perceptions with loyalty and sales data in the Wärtsilä Corporation.The research results covering all the linkages of the entire SPC is reported in Appendix 14.

Bowen (2008) applying existing theories to articulate its conceptual basis. This will be followed by careful examination of the linkages between employee and customer perceptions using empirical data. The results are described in Chapter 5. The research process will be concluding with the discussion of the potential benefits of introducing positive organizational scholarship concepts into the service profit chain discussion. A new model, the model of positively deviant B-to-B service businesses will be proposed at the end of this study.

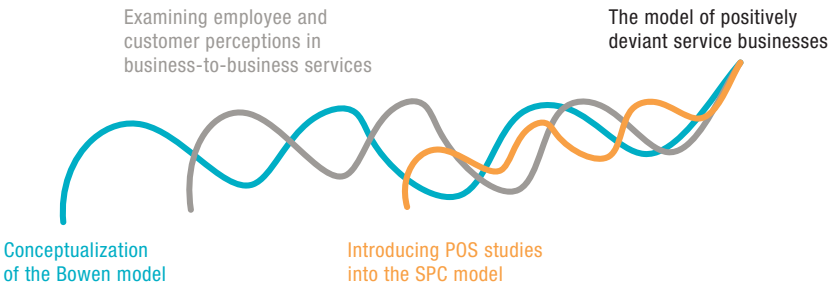

Figure 3. Research approach.

The aim of this thesis is to examine employee and customer perceptions in business-to-business services. In addition, the aim is to elaborate on the linkage model depicted by Bowen (2008) with the help of the positive organizational scholarship lenses to recognize the potential in positively deviant behaviors and how they may leverage further positive outcomes in the service profit chain.

Research Question 1 (RQ1): How do the linkages between employee and customer perceptions in a B-to-B service context differ for employee groups having different types of interactions with customers?

The linkage model (figure 2) is an integration of high level constructs from previous studies on the service profit chain and linkage research in B-to-C context. This linkage model has not been operationalised, nor have the linkages been empirically examined in a B-to-B context. The literature review in Chapters 2 and 3 analyses the conceptual foundations of the linkage model presented in Figure 2 in light of previous literature on the service profit chain and linkage research.

The current discussion in industrial marketing literature has elevated new value creation possibilities in B-to-B services such as collaboration (Berry, 2011), strength of the relationships and human experiences (Ramaswamy, 2011). Furthermore, Vargo and Akaka (2009) are questioning the differences between B-to-C and B-to-B and whether there is a difference or if the separation is due to the prevailing goods dominant terminology only. Vargo and Lusch (2011:182) recently emphasized the need for a cross-fertilization of the fragmented sub-disciplines, i.e., B-to-C and B-to-B and start to use actor-to-actor instead.

This study employs extensive empirical data from a global B-to-B service company. The links between employee and customer satisfaction survey data will be examined. The employee survey data used in this thesis consists of two

employee groups, account managers and field service engineers. These two employee groups were chosen, as they are the two sole interfaces to the customers and represent the service company through their behaviors and actions. However, the roles of these two employee groups differ substantially in the way they interact with customers. Account managers act as the main interface with the customer by managing sales and other negotiations, providing new technical solutions and other offerings. In their role, account managers are dependent on the collaboration of other departments, such as technical support, product development and finance. Whereas field service engineers are alone in the customer premises and they are obliged to rely on their own competencies and skills while handling maintenance and repair activities. Furthermore, account managers have a stronger role in the beginning of the customer relationship, whereas field service engineers support customers in the ongoing maintenance and repair activities during the customer lifetime. The basic assumption in this research is that the specified account managers and field service engineers represent a Wärtsilä company and its customers in a certain country.

Schneider et al. (1985:424; 1980) have emphasized the hypothesis that the key element in the service profit chain is the physical and psychological closeness of employees and customers i.e. the boundary conditions. The survey data of this thesis provides an opportunity to test, using data from two employee groups, how account managers and field service engineers, which have different types of interactions with customers, fit to the linkage model[6] created using factors in the research data. Structural equation and path modeling has been chosen to support the testing of sequential links in the linkage model build using factors created from the survey data.

The results of this study increase the knowledge concerning the key drivers in the B-to-B service profit chain process and support leadership in enhancing those elements in their organizations.

Research Question 2 (RQ2): What kinds of modifications are suggested to the linkage model in the B-to-B service context based on the results of the theory testing?

In light of the extensive survey sample, the second question seeks to make a theoretical contribution to the linkage research by asking whether the linkage model is sufficient in a B-to-B context or whether the structure needs to be revised.

The third research question relates to the implications of the research findings and the impact on the functioning of an organization, when viewed through POS lenses. The opportunities for integrating SPC with POS thinking are viewed through the lenses of four types of actors in the SPC: supervisors, employees, peers and customers.

The broaden-and-build theory of positive emotions by Fredrickson (1998, 2001) has been chosen as the focal concept to explore how four types of actors: supervisors, employees, peers and customers could foster the creation of

6 The linkage model (figure 20) is a modification of the Bowen model, presented in Figure 2, using factors in the research data and based on the conceptualization (chapter 3) and operationalization (section 5.2) process.

positively deviant service businesses. Fredrickson's broaden-and-build theory of positive emotions postulates that positive emotions (1) broaden people's habitual modes of thinking, making members of the organization more flexible, empathic and creative and (2) build people's enduring personal resources and emotional wellbeing. Fredrickson (2005) defines emotional well-being with attributes such as psychological resilience, resource building, trust between self and other, and flourishing. She proposes that organizational outcomes are dependent on these individual level attributes. Further to this, Cameron (2008) claims that behaviors need to be intentional, in order to ensure that positively deviant outcomes occur.

The final part of the thesis covers the exploration of the opportunities to further develop service profit chain and services thinking outside its current tradition. The need for this exploration emerges from the recent industrial marketing literature which emphasizes the important role of collaborative interaction (Ballantyne et al., 2011), strength of interactions (Berry, 2011) and the premise that the nature of interactions will change based on human experiences (Ramaswamy, 2011). Vargo and Lusch (2011:182-184) claim that all actors, i.e. producers, firms, consumers, suppliers, distributors and other stakeholders can all be seen as resource-integrating, service-providing enterprises and above all, that various actors in the service profit chain do the same thing, co-create service value.

Thus, the importance of the quality of interactions between actors in the SPC is increasing. Positive organizational scholarship provides positive means of enhancing the quality of interactions by proposing positively deviant behaviors such as expressions of appreciation, gratitude, trustworthiness and helping others (Fredrickson, 2003b). Therefore, one additional research question has been created to explore how the broaden-and-build process if applied by various actors in the service profit chain, such as supervisors, employees, peers and customers could support the creation of positively deviant performances in service businesses. Four positively deviant performances: trust in self and others, feeling of oneness, creativity and seeing the bigger picture, are elaborated on using three perspectives: the broaden-and-build theory of positive emotions and other POS studies, results from Part I and SPC literature. These elaborations build the link between the broaden-and-build process of the actors in the SPC, results from Part I and SPC literature.

Research Question 3 (RQ3): Based on the existing POS theories and studies, how may the broaden-and-build processes of actors involved in the SPC enable them to foster the creation of positively deviant service businesses?

Furthermore, a novel linkage model will be introduced to expand the current service profit chain and linkage research. This new model is called: the model of positively deviant service businesses which establishes links between theories and studies from positive organizational scholarship, results from Part I and existing service profit chain and linkage research.

Table 1. Summary of research questions.

Research Questions	Theory /literature	Data/material	Method	Research Result
RQ1: How do the linkages between employee and customer perceptions in a B-to-B service context differ for employee groups having different types of interactions with customers?	Theory testing/ existing theories on the service profit chain and linkage research.	Employee satisfaction and customer satisfaction survey data. Service profit chain and linkage literature	a) Quantitative analyses: Explorative factor analysis (EFA), Confirmatory factor analysis (CFA) b) Structural equation and Path modeling c) Conceptualization of the linkage model d) Operationalization process	a) Conceptualization of the linkage model b) Factor solutions based on concepts in SPC theories. c) Correlation coefficients between employee and customer data. d) Strengths of the linkages in the linkage model are examined with the research data.
RQ2: What kinds of modifications are suggested to the linkage model in the B-to-B service context based on the results of the theory testing?	Theory building	Identified gaps in the linkage model based on the results from theory testing in Chapter 5.	Built on the existing linkage model	A modified linkage model for B-to-B.
RQ3: Based on the existing POS theories and studies, how may the broaden-and-build processes of actors involved in the SPC enable them to foster the creation of positively deviant service businesses?	Theory building	Positive organizational scholarship literature and the empirical data of this thesis.	Linking service profit chain thinking with POS research.	The model of positively deviant service businesses. Providing a link between research results from Phase I and theories and studies in POS and services marketing literature.

Table 1 is a summary of the three research questions. Columns two and three present the theory, literature, data or materials used to respond to the research question. The fourth column defines the method used to refine the results and the last column reports the research results used to answer the research questions. The first question relates to the testing of the existing theory of SPC and linkage research using the linkage model created with the support of conceptualization and operationalization processes. The linkage model is constructed using factors from the research data. The second research question, RQ2, examines whether the linkage model, examined in the previous phase, is adequate for managing a successful B-to-B service business. A novel theory is built by answering the second research question based on the findings presented in Chapter 5. The third research question supports the building of a novel theory by integrating research results from Chapter 5 and theories and studies from positive organizational scholarship (chapter 6). The results for RQ1 and RQ2 are presented in Chapter 5 and for RQ3 in Chapter 6.

1.5 Research Process and Methodology

A quantitative research approach will be used in this study to examine the links between business unit employees' perceptions of their organization and respective customers' perceptions of service quality in a B-to-B context. A considerable amount of research exists in B-to-C context which has tried to capture the key drivers present in customer service (Gelade & Young, 2005; Hallowell, 1996; Ryan, Schmit, & Johnson, 1996; Salanova, Agut, & Peiro, 2005; Schneider, Hanges, Smith, & Salvaggio, 2003; Schneider et al., 1998b). However, similar research tradition does not exist in a B-to-B context. The opportunity to utilize survey data from a B-to-B context made the research process captivating. Further to this, the recent discussion (Vargo et al., 2011) on recent industrial marketing literature has raised concerns as to whether the categorization between B-to-C and B-to-B remains valid. Thus, testing of the linkage model using data from two employee groups having different types of interactions with customers is of scientific interest and may reveal novel insights in to the structure of the linkage model.

The decision to examine the most current linkage model of SPC by Bowen created several challenges. Before statistical analysis could take place the concepts behind the linkage model presented in Figure 2 had to be de-constructed. Bowen does not explicitly explain or analyse in detail the constructs he uses in his model. Moreover, he refers in his article to existing studies on service profit chain and linkage research carried out by several researchers (Bowen, Gilliland, & Folger, 1999; Dietz et al., 2004; Schneider et al., 1985), including Bowen himself, over the preceding 35 years (Bowen, 2008:162-165). However, he does not conceptualize the constructs in his model. Therefore, the first task I set myself was to analyse and explore the concepts in each of the constructs in the linkage model described by Bowen. The second task was to ensure that the factors created using the research data, based on existing surveys conducted by Wärtsilä, were representing the constructs as depicted by Bowen. Thus, operationalization process was conducted in Chapter 5.

The progress of the research can be depicted with the help of Figure 4.

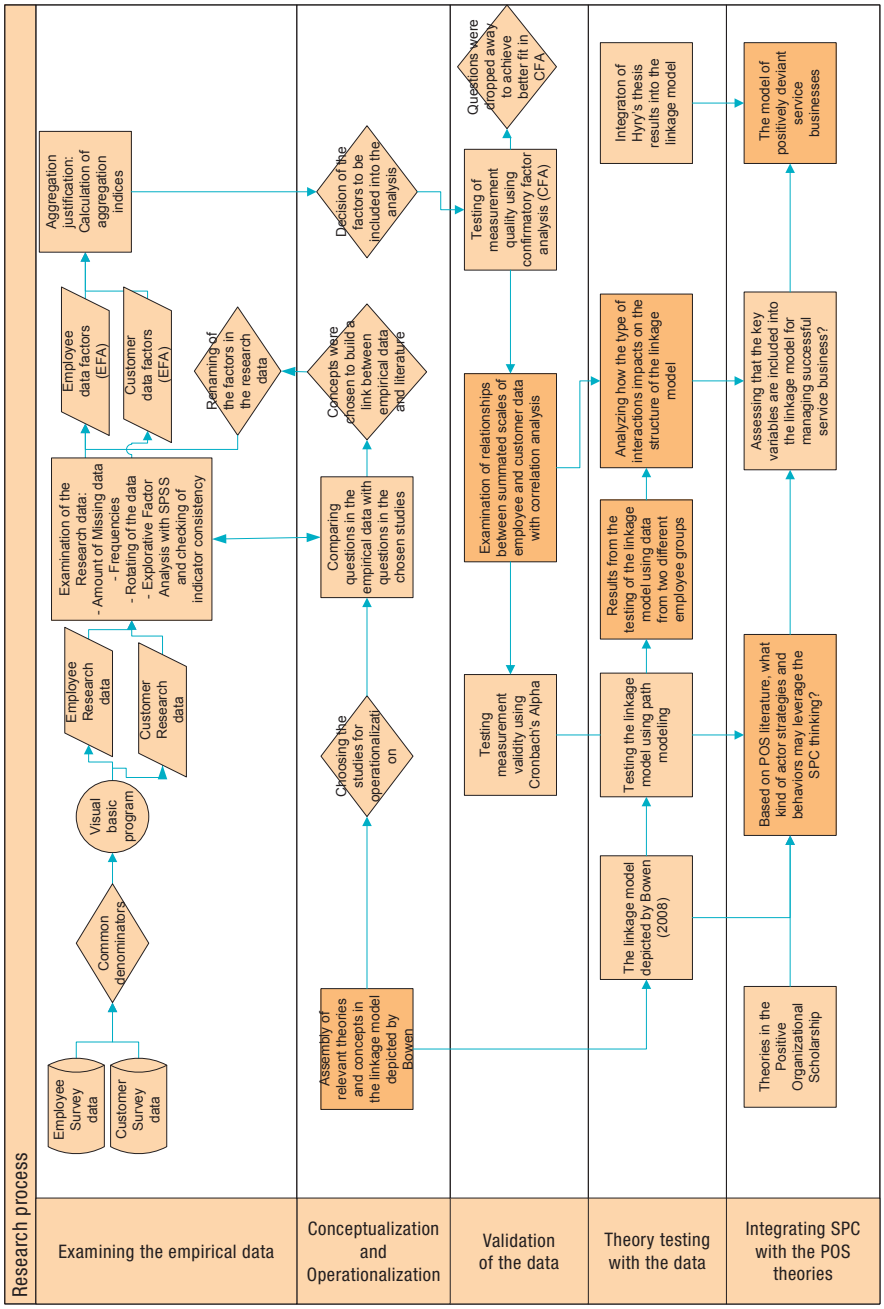

Figure 4. Research process flow.

Figure 4 presents the research process and its five sequential phases. The five phases are, in process order: examining the empirical data, conceptualization and operationalization, validation of the data, theory testing using research data and the integration of SPC and linkage research with the POS literature.

Figure 4 shows the activities that will take place in each phase. Some of the phases will be conducted in parallel, including several iterations and explorations of the data. The darker color in the activity box in Figure 4 addresses the answering of the research questions.

In the first phase, the empirical data which was collected by the Wärtsilä Corporation, not by the researcher, will be examined. The employee and customer survey data was collected in two separate surveys and by two different external research institutes and do not originally have a common denominator, such as a business unit, which could support the connection of these two data sets. Therefore, a visual basic program was generated for this thesis, to link the two survey data sets together. The visual basic program connects the employee survey and customer survey data using common data denominators, i.e. rules that link individual employee survey data with customer survey data, at a company level. Survey data was converted into research data through this process. Research data includes only those replies where the corresponding employee and customer data could be found (see more in appendix 4). The following step in the examination phase will be the validation of these two research data sets for missing values and frequencies. The data will be rotated using Promax rotation method[7] and the explorative factor analysis (EFA) will be conducted using the SPSS software. Statistical analysis will be conducted using aggregated business unit level employee and customer data. Thus, individual level employee and customer responses will be aggregated and indices for aggregation justification will be calculated. This step will determine which factors in the research data fulfill the multilevel modeling criteria.

The second phase includes steps that support the operationalization of the linkage model to be used in the theory testing phase. Firstly, the existing studies of the service profit chain and linkage research will be assembled to carry out the conceptualization of the linkage model depicted by Bowen (chapter 3). Secondly, the operationalization phase will connect the measurement items in the research data with existing SPC and linkage research. The actual operationalization will be conducted through an item level comparison to the measurement items in the research data with those in chosen studies in the literature. The naming of the factors in the research data will also be defined in this phase (see more in section 5.2).

The third phase consists of the validation of the research data. Firstly, confirmatory factor analysis (CFA) will be conducted to examine the measurement quality of the chosen factor solutions. Based on the CFA, questions that do not improve the factor solution will be discarded. The validation phase will continue by examining the relationships between the factors of employee and customer data using correlation analysis. The final validation activity will test the measurement using Cronbach's Alpha.

The fourth phase will examine the linkage model, using path modeling, that

7 The Promax rotation method was chosen in this study based on the theoretical assumption that factors are correlated

has been constructed for this thesis from the factors in the empirical data. The results will be recorded and the gaps, in reference to the linkage model depicted by Bowen (2008), will be documented.

In the final, fifth phase, the results of the theory testing will be integrated with existing studies and theories of positive organizational scholarship. This step will consist of examining as to whether the key variables are present in the linkage model that may lead to successful managing of B-to-B service businesses. Ultimately, the last research phase will synthesize the POS and SPC literature with the outcome of the data analysis to answer the third research question by presenting the model of positively deviant service businesses and a novel concept, climate for positivity will be introduced. In addition implications for leadership practices and organizational surveys in a services context will be discussed and proposed.

1.6 The Structure of This Thesis

This study is written in two interrelated parts. The first part tests the linkage model constructed using factors in the research data and the depiction of the linkage model by Bowen (2008) The second part builds on research results from Part I, POS theories and studies and organizational climate research, and creates a novel theory that will contribute to service profit chain thinking.

The first part of this thesis is made up of five chapters. In the first, introductory chapter, the significance of this research is demonstrated, followed by a description of the research questions. Chapter 2 introduces the theories, concepts and themes of service businesses in general and SPC and linkage research, in particular. The literature review in Chapter two includes the evolution of the paradigm of SPC and linkage research as well as the discussion on the evolution of service businesses and its productivity elements.

The first part of this thesis employs two types of methodology. Firstly, a conceptualization of the linkage model depicted by Bowen (2008) using existing SPC literature is presented in Chapter 3. Each construct in the linkage model presented in Figure 2 is defined using existing concepts in the SPC literature. Secondly, the empirical methodology of this thesis is described in Chapter 4. The empirical methodology of this thesis describes how the survey data will be transferred into research data and how the research data will be analyzed and prepared for use in examining the linkage model in Chapter 5. Chapter 5 consists of the examining and validating of the empirical data as well as the highly important phase of the research process, the operationalization of the linkage model to be used in the theory testing phase.

The second part of this study introduces a novel theoretical approach and proposes positive means, provided by positive organizational scholarship (POS) studies and broaden-and-build theory in particular, of supplementing the SPC theories and studies as well as proposals for the modifications of the original linkage model as elucidated by Bowen (2008).

The evidence of the potential positive deviance arising from the research data analyses in Part I is viewed through the POS lenses in Chapter 6 in Part II. A novel model, the model of positively deviant service businesses will be launched. This model is a synthesis of the results presented in Part I and the theories of

positive organizational scholarship. In addition a novel concept, climate for positivity will be introduced as a means of elevating positively deviant service in organizations

In Chapter 7, the implications for leadership practices and organizational surveys will be discussed.

1.7 The Contributions of this Thesis

This thesis aims to make several contributions. Firstly, I show the cross-disciplinary evolution of the service profit chain and linkage research since the early 1970s. The evolution is presented through tracking the conceptual origins of the linkage model depicted by Bowen (2008) through the development of the context of the relevant research fields. The summarizing table with explanations is presented in Section 2.4.

Secondly, I present a conceptual analysis of all the constructs in the linkage model presented in Figure 2. The literature review reveals the concepts that explicate the organizational phenomena captured by the construct. This is essential for the later testing of the theory. Conceptualization is based on the existing literature of SPC and linkage research and the results are summarized in Chapter 3.

Thirdly, I have developed a new process of converting the survey data to be used for the testing of the linkage model in cases where the survey data already exists, as is the case in this study. The process is described step by step and documented in Appendix 4. This might be considered to be of a significant importance for studies in similar cases.

The fourth contribution is embedded in the operationalization process that creates the correspondence between the linkage model in Figure 2 and the survey data from the business-to-business environment. The outcome of this process provides the foundation for the construct validity of this study and ensures that the factors from the empirical data used in the statistical analysis correspond with the concepts in the literature. This operationalization phase is presented in Section 5.2.

Fifthly, the study examines the linkages between employee and customer perceptions in a B-to-B service business. Path modeling is used to analyze the linkages[8]. Further to this, current thesis has examined how the results differ when using data from two different types of employee groups, account management and field service engineering. This examination, presented in Chapter 5, resulted in the proposal that the linkage model is applicable to field service engineers' data but not to the account managers' data. The reason could be different boundary conditions i.e., the way these two employee groups encounter customers is different. Field service engineers have a physical and psychological closeness with customers whereas account managers mostly contact customers by emails and phone. These results suggest that the type of job and the physical and psychological closeness with customers is a key variable of the linkage model. Therefore,

8 Additionally, to my knowledge this thesis provides an empirical examination of the linkages in the entire service profit chain model for the first time using data from a B-to-B context. The linkages are partly examined in this thesis and partly in a thesis carried out by my colleague Hyry in our research group. The combined results of the research group are presented in Appendix 14.

a modified linkage model that better fits to a B-to-B service context is presented and explained in Section 5.6.

Part II of the thesis contributes to the theory building of the service profit chain process. A novel theoretical approach to the service profit chain and linkage research will be provided by introducing existing studies and theories of positive organizational scholarship. A novel model of positively deviant service businesses will be introduced. This model proposes incorporating positive means such as positively deviant behaviors, to enhance the quality of interactions and human experiences, towards positively deviant service businesses.

I will extend the service profit chain thinking into an exploration of how positively deviant behaviors and positive emotions of four types of actors in the SPC, supervisors, employees, peers and customers, could release the potential for moving towards more favorable outcomes in service businesses. In addition to this, I will suggest that the positive deviance arising from the data is a consolidation of positive emotions and the positively deviant behaviors of various actors in a service profit chain.

Secondly, I will propose a novel linkage model for the B-to-B context. The model of positively deviant service businesses is described in Section 6.7. This model synthesizes the theory testing results of the first part of this thesis with the research findings of extant POS literature.

Thirdly, I will suggest a novel concept of a climate for positivity as the means of fostering the creation of positively deviant service businesses. The construct integrates existing studies of organizational culture, psychological climate and organizational climate studies with studies of organizational behavior and positive organizational scholarship. This new climate for positivity is presented in Section 6.8.

Finally, I will suggest implications for leadership practices for managing a climate for positivity in Section 7.2.1. It is argued that a climate for positivity impacts on how individuals interact with each other, which in turn creates positive meaning and positive emotions among participants (Folkman, 1997; Fredrickson, 2003) creating positively deviant performances in organizations. Leaders are the role models and their positively deviant behaviors will guide the attention towards positivity in the organization. Positively deviant performances strengthen the climate for positivity, building a competitive advantage in service businesses by reinforcing customer satisfaction and loyalty. Thus the right approach, such as a climate for positivity, guides service organizations to either reach or exceed the expected results.

PART I

2 Theories Contributing to Service Business Research

This chapter highlights the context of the study, focusing on the research of the service profit chain, linkage research, and productivity in service businesses.

Recent developments in the growth and profitability of manufacturing companies in Western countries have brought about the need to expand into service offerings. The past decade has seen the rapid growth of business-to-business services. The OECD research directorate of Science Technology and Industry provides major measurements for building an accurate picture of the service economy. These reports indicate that business-to-business services, such as supply chain management, customer contact centers and IT outsourcing and consulting are the major drivers of the service sector in developed countries. According to the reports, by 2008 business related services had increased their share of the gross domestic product to 20-30 percent in OECD countries, compared to 10-20 percent in the 1980s (Wölfl, 2005:22). Consumer services (e.g. hotels, restaurants, and retailing) figures, in contrast, did not show significant changes. In the OECD report two major reasons for the drive in the B-to-B service demand are mentioned; the transformation in manufacturing and the urgency to improve productivity.

Former solely manufacturing companies are to a greater extent replacing and supplementing their core activities, such as producing goods in their factories, with services. Neely (2008) studied over 10.000 firms in 23 countries between 1994 and 2004 using the OSIRIS database. OSIRIS is a comprehensive database of listed companies, and banks around the world. His research focused on the phenomenon of the servitization of the manufacturing companies (Neely, 2008). Servitization happens when manufacturing companies start to offer fuller market packages of customer-focused combinations of goods, services, support, self-service and knowledge (Vandermerwe & Rada, 1988:314). Neely analysed the servitization movement from several perspectives; the size of the company, the geographical continent and the financial performance. The sample consisted of 30 % servitized firms and 70 % pure manufacturing firms. Interestingly 53 % of the firms that had declared bankruptcy had servitized, whereas 47 % had remained in manufacturing only. Therefore, Neely suggests that the transition from a manufacturing firm to a servitized firm might be problematic (2008:13).

The graph in Appendix 1 shows a recent report of increasing worldwide service sector value addition embodied in manufacturing goods.

Service is the application of specialized competencies, skills and knowledge, through deeds, processes and performances for the benefit of another entity. Vargo et al. (2004b:326) claim that service is an interactive process of doing "something for someone" that creates value. Further to this, several researchers describe the supplier-customer service interaction as a co-creation process (Grönroos & Ojasalo, 2004; Ojasalo, 2003; Payne, Storbacka, & Frow, 2008; Prahalad & Ramaswamy, 2004). According to Grönroos (2004), service is an interactive co-creation process of "doing something with someone" that benefits both. In addition to this, Edvardsson et al. (2005:118) define service as a perspective on value creation rather than an aspect of market offerings.

Prahalad and Ramaswamy (2004:50) list several co-creation opportunities for creating economic value in services; repeated interaction, activity in several areas, interaction through multiple channels and the quality of the interactions. Similarly, Payne, Storbacka and Frow (2008:86) indicate that the encounter processes transmit the value between suppliers and customers in services. They claim that the co-creation experience is based on customers' emotions, cognitions and behaviors. Furthermore, the co-creation experience impacts on customers' learning and increases customers' productivity (Payne et al., 2008). Ballantyne and Varey (2008; 2006) go even further and argue that co-creation is actually a form of collaboration. They (Ballantyne et al., 2008:13) articulate the new approach of marketing as a preference demonstrated by both suppliers and customers, in their choice to serve each other in collaborative relationships. Heskett et al. (1994b) provide a framework for interdependencies that shows those mutual benefits gained by suppliers and customers as presented in Figure 10 in SectThe service business is performed in an ongoing interaction between organizations and their customers. The core of the service business is not exchange of a service per se, but a relationship between the supplier and the customer in which the exchange occurs (Grönroos, 2007b:24). The service business is often linked to customer relationship marketing. Grönroos separates relationship marketing from transaction marketing:

> In transaction marketing the customer is seen as an antagonist who has to be persuaded to choose a particular option, whereas in relationship marketing the customer is seen instead as a resource together with whom the firm can create a valued solution that fulfils the customer's needs and solves his problems (Grönroos, 2007b:28-29).

However, Grönroos claims that all business is service business:

> The emerging principles of services marketing will become the mainstream of marketing in the future…The physical goods become one element among others in a total service offering…This means that physical goods marketing and services marketing converge, but services-oriented thinking will dominate (2000:87-88).

Grönroos (2007b:7) defines the paradigm for companies to evolve towards becoming a service business. Thus service companies' strategic goal and management prioritization should focus on generating value with the customers. Grön-

roos et al. (2007c) continue by claiming that the service paradigm requires the adaptation of a service perspective, i.e. a company's strategy is to combine product and service components, information, personal attention and other elements of customer relationships into a total service offering.

2.1 The Service Business as a People Business

Schneider (2008:283) argues that what he calls the service climate directs how employees behave in the customer interactions in that their perceptions are transformed by what actually happens to them and around them in the organization. As described in the previous section, service orientation brings organizations closer to each other through co-creation and collaboration. Employees in the customer interface play a crucial role in building customers' perceptions. Hence the attitudes, skills and competencies of customer service employees occupy a central role in service businesses (Schneider et al., 1998b). Furthermore, in service organizations the organizational effectiveness is created through leadership emphasis on service quality and employee behavioral choices, together with customers' perceptions and attitudes (Payne et al., 2008). Therefore, it is essential for service businesses to understand the nature of the value creation process and the mechanism driving human performance which delivers high organizational outcomes, such as productivity, profitability, customer loyalty and revenues.

Service organizations need competent employees in order to build high service quality. The building of sustainable competences in service businesses requires persistence, continuous knowledge sharing and commitment from empowered people. In turn, customers will stay loyal, producing continuity, revenues and positive word of mouth (Bhote, 1996).

Schneider (1985, 2008) raises the key question of whether situations determine peoples' behavior or whether the attributes of people determine the situations. Schneider has been of the opinion since 1987, and still is after more than 20 years of academic life, that the attributes of people determine the situations. People and their behaviors shape the environment within which they act and have a central role in modifying the working environment (Schneider, 2008). Therefore, the process of selecting, attracting and sustaining the right people is critical to service organizations. When people are central, as Schneider (2008) points out, Human Resource Management (HRM) is vitally important for service businesses. A Study by Scotti et al. (2007:110) supports Schneider's view by affirming that in the service business, human resource practices such as employee involvement, empowerment, trust, goal alignment, training, teamwork, communications and performance-based rewarding, results in high-performance work systems (HPWS). HPWS, also called high-involvement work systems, are linked to important organizational outcomes – such as service quality, customer satisfaction and loyalty (Scotti et al., 2007:110). Further to this Bowen et al. (1999) argue that human resource practices such as fairness in hiring, performance evaluations and rewarding affect not only employees but also their customers.

Schneider (1987) emphasizes the importance of HRM in service organizations in his attraction-selection-attrition cycle model (ASA). The ASA model provides a framework for understanding organizational behavior that integrates

both individual and organizational theories. The framework proposes that the nature of the organization, its structures, processes and culture are an outcome of three interrelated dynamic processes, attraction-selection-attrition and is determined by the kinds of people existing in an organization (Schneider, Goldstein, & Smith, 1995:748).

The ASA model stresses the importance of recruiting the right people with the right attitude and personality and the importance of people management in leadership. The ASA framework proposes that organizations are functions of the kinds of people they contain (Schneider, 1987). Schneider et al. (Schneider, Smith, Taylor, & Fleenor, 1998a:466) studied several organizations using Myers-Briggs Type Indicator (MBTI) to measure the different personality types of managers. Their research findings suggested that organizations do indeed differ in respect to the personality characteristics of their members. Their results suggested that organizations are somewhat uniform in regard to the personality characteristics of their managers. Thus the attraction-selection-attrition model (ASA) implies that individuals with similar personalities are found in the same work settings (Schneider et al., 1998a).

2.2 Service Dominant Logic and Value Creation in Services

In recent years, there has been an increasing interest in ascertaining how competitiveness is built in service businesses. Many manufacturing and engineering companies are shifting their business logic from goods-dominant to service-dominant models (Ballantyne et al., 2008; Grönroos, 2007c; Vargo, Maglio, & Akaka, 2008b). This shift has increased the interest in understanding what drives the competiveness in the supplier–customer relationship within services.

Vargo et al. (2004a) identify the primary unit of exchange in manufacturing as operand resources, i.e. goods, whereas in services the primary unit of exchange is called operant resources such as knowledge and skills.

> Broadly, resources are of two types: operand, those that require some action to be performed on them to have value (e.g. natural resources) and operant, those that can be used to act (e.g. human skills and knowledge). Service provision implies the ongoing combination of resources, through integration, and their application, driven by operant resources — the activities of actors (Vargo & Lusch, 2011:184)

In their first studies on the differences between Goods- Dominant Logic (G-D) and Service-Dominant (S-D) logic Vargo et al. (2004a) distinguished six characteristics: the primary unit of exchange, the role of goods, the role of the customer, determination and meaning of value, firm-customer interaction and source of economic growth. Since 2004 they have enlarged their list covering also the process of value creation, measurement of value and the role of the firm as described in Table 2. G-D logic is tangible, e.g. production of manufacturing merchandise, whereas S-D logic is intangible, based on an exchange of knowledge and skills.

Vargo et al. (2004a:5) claim that companies can always improve their customer service and financial performance. According to them, the service-centric

view of marketing distinguishes marketing as a continuous learning process directed at improving operant resources, i.e. the knowledge and skills of the employees. The expanding and evolving service-dominant logic of marketing is a social and entrepreneurial challenge that one should not ignore (Ballantyne et al., 2008:13).

Table 2. G-D logic vs. S-D logic on value creation (Vargo et al., 2008b:147)

	G-D logic	S-D logic
Value driver	Value-in-exchange	Value-in-use or value-in-context
Creator of value	Firm, often with input from firms in asupply chain	Firm, network partners, and customers
Process of value creation	Firms embed value in “goods” or “services”, value is ‘added’ by enhancing or increasing attributes	Firms propose value through market offerings, customers continue value-creation process through use
Purpose of value	Increase wealth for the firm	Increase adaptability, survivability, and system wellbeing through service (applied knowledge and skills) of others
Measurement of value	The amount of nominal value, price received in exchange	The adaptability and survivability of the beneficiary system
Resources used	Primarily operand resources	Primarily operant resources, sometimes transferred by embedding them in operand resources-goods
Role of firm	Produce and distribute value	Propose and co-create value, provide service
Role of goods	Units of output, operand resources that are embedded with value	Vehicle for operant resources, enables access to benefits of firm competences
Role of customers	To ‘use up’ or ‘destroy’ value created by the firm	Co-create value through the integration of firm provided resources with other private and public resources

Table 2 shows how Vargo et al. (2008b:147) define the differences between service-dominant logic in marketing compared to the traditional goods- dominant logic. As described earlier, the transition from a manufacturing firm to a service firm can be problematic (Neely, 2008:13). Therefore, the shift to service-dominant logic requires novel leadership strategies and an innovative mindset. Customers are not satisfied only with the physical delivery of goods and services as they want more, in Grönroos’s words:

> And they demand all this, and much more, in a friendly, trustworthy and timely manner. Moreover, the core product is less seldom than the elements surrounding the core reason for dissatisfaction (Grönroos, 2004).

Elements incorporated into service-dominant logic have similarities with customer relationship marketing. The phrase “relationship marketing” appeared in the services marketing literature for the first time in a 1983 paper by Berry.

> Relationship marketing concerns attracting, maintaining and – in multi-service firms – building customer relationships. The relationship marketing firm invests

> in formal marketing programming not only to attract new customers but also to keep and improve existing customers (Berry, 1983:25).

Harker (1999) studied 26 different authors' descriptions of relationship marketing and found seven primary attributes. According to these studies relationship marketing is defined using the following attributes: creation, development, maintenance, interactive, long term, emotional content and output. However, not a single definition included all seven constructs. Therefore he presented one generic definition for relationship marketing:

> An organisation engaged in proactively creating, developing and maintaining committed, interactive and profitable exchanges with selected customers and partners over time is engaged in relationship marketing (Harker, 1999:16).

Furthermore, Gummesson (1994:6) highlights the importance of management processes in relationship marketing. He also claims that everyone in the service organization is a part time marketer, not only the marketing department (Gummesson, 1991). Additionally, he emphasises that the process of making relationship marketing operational, requires that both supplier and customer are active. Thus, as Harker (1999 defined earlier, the services paradigm is built on human interaction.

Grönroos, with his Nordic colleagues, has been the forerunner in customer relationship marketing research (Grönroos, 2004; Grönroos et al., 2004; Gummesson, 1987; Gummesson, 1994; Storbacka.K., Strandvik.T., & Grönroos.C., 1994). Grönroos (2010a) lists aspects of companies adopting service logic: Firstly, the service business is about supporting customers' processes and enabling customers to create value (e.g., profitability and productivity) in their own businesses. Secondly, the service business is interactive in that service value is built through processes, jointly with the customer.

Value co-creation means that the supplier is actively participating in the value creation process through interaction (Grönroos et al., 2010:570). The strength of the relationships in services has gained increasing interest in the most recent literature. As Berry states

> An organization's future is measured by the strength of its relationships – with customers, employees, vendors and other business partners, and communities. Relationships are the link to tomorrow. Mutual commitment is the essence of strong relationships…Sustainable success does depend on superior value co-creation. Each party to a transaction needs to benefit for the relationship to grow stronger. All organizations are service organizations and humane organizations compete best. They attract the best people to provide service who, in turn, help build dedication-based relationships with value-creating customers. (Berry, 2011:189)

Moreover, Ramaswamy (2011:195) claims that service value is based on human experiences rather than the service process. In the Introduction chapter a gap in the current service-dominant logic literature (Vargo et al., 2009; 2004b; 2008a) was identified. The latest list of 10 primary premises of SD logic (Vargo et al., 2009) stresses the importance of interactions and experiences, however, Vargo

et al. (2009) do not provide the means to elevate the quality of interactions and favourable human experiences in services. Therefore, this thesis, specifically in Part II, takes the opportunity of providing means, such as positively deviant behaviours and positive emotions, to enhance this gap.

2.3 Paradigms of Service Profit Chain Research

A large and growing body of literature examines profitability in a service business context (Chi & Gursoy, 2009; Harter et al., 2002; Tornow, 1991; Tornow & Wiley, 1991). These studies, mainly conducted in a B-to-C context, suggest a positive relationship between employees' attitudes and behaviors and customers' perceptions of service quality.

The evolution of service profit chain (SPC) research consists of an integration of several disciplines and perceptions. SPC research takes a multidisciplinary perspective with contributions from marketing, operations management (OM) and specifically from organizational behavior and human resources management (OB/HRM) (Bowen, 2008:157). Heskett et al. (1997:18-19) recommend that those service companies seeking to achieve enhanced results, apply a service profit chain strategy.

This section reviews the key paradigms in the service profit chain literature. The review starts with an introduction of the chronological evolution of the different fields of research and how they have merged into the linkage model presented in Figure 2 (Bowen, 2008:164).

Service profit chain (SPC) research studies how internal elements of a service company impact on customers' perceptions and attitudes and how customers' perceptions impact on the organizational outcome, such as, profitability, growth, retention and loyalty (Heskett et al., 1994; Heskett et al., 1997; Yu, 2007). Service profit chain research links concepts such as leadership, service climate and employee attitudes and behaviors to customer quality perceptions and company profit. SPC research focuses on organizational practices and procedures that generate greater profit for service businesses.

> The SPC provides an integrative framework for understanding how a firm's operational investments into service operations are related to customer perceptions and behaviors, and how these translate into profits. For a firm, it provides much needed guidance about the complex interrelationships among operational investments, customer perceptions, and the bottom line. (Kamakura, Mittal, De Rosa, & Mazzon, 2002:294)

The outcome of this process is measured through metrics such as sales, revenues, market share, reputation, customer retention and loyalty (Harter & Schmidt, 2006:41). According to Heskett et al. (1994) the links in the service profit chain are the following: profit and growth are generated primarily by customer loyalty whereas customer loyalty is a direct outcome of customer satisfaction. Customer satisfaction in turn, is for the most part impacted on by the value created with the customer by the employees (Grönroos, 2007a). Finally, employee satisfaction creates employee productivity and retention which are the antecedents of external service value. The entire process is driven by the leadership empha-

sis placed on building high quality customer service and the climate for service (Schneider et al., 1985).

Several researchers have empirically examined the service profit chain in the B-to-C context and confirmed that the links between several of the elements in the SPC exist (Borucki & Burke, 1999; Gelade et al., 2005; Harter et al., 2002; Koys, 2001). The review of the evolution of linkage research is presented in Section 2.4.

Service profit chain research has evolved as a result of cross-disciplinary studies over the past 40 years. This conceptual evolution is summarized in Table 3 below.

Table 3. The service profit chain related literature: conceptual evolution.

Decade	Emerging Concepts/Themes	References
1970	Organizational climate and culture, psychological climate, social information processing	James & Jones (1974, 1979), Schneider (1975), Salancik & Pfeffer (1977, 1978)
1980	Internal/external perception of service quality, Difference between service and manufacturing orientations, Relationship perspective in service marketing,	Schneider et al. (1980, –87), Schneider & Bowen (1985, –88, –89), Parasuraman (1985, –88), Bowen (1989) Grönroos (1982, –83, –84), Berry (1983)
1990	Socialization and meaning, Attitudes and motivation in service business, Customer satisfaction and loyalty, Service profit chain (SPC), Linkage research, Human resource management (HRM), Personal engagement, Productivity in service	Schneider (1990,–92, –93,–96,–98), Wiley (1991), Schneider & Bowen (1993), Bitner (1994), Reynoso & Moores (1995), Schmit & Allscheid (1995), Zeithaml (1996), Grönroos (1994, –96, –97), Hartline (1996), Johnson (1996), Ryan & Schmit (1996), Burke et al. (1992, –96) Heskett (1997), Borucki (1999), Bhote (1996), Hansen (1999), Hallowell et al. (1996), Kahn (1990, –92), Denison (1996), Ojasalo (1999)
2000–	Organizational citizenship behavior (OCB), Emotions, Emotional contagiousness, Work engagement, Reverse links in the SPC	Parasuraman (2000), Pugh (2001,–02), Schneider et al. (2002, –03, –05, –08), Möller & Törrönen (2002), Bell (2001), Allen & Wilburn (2002), Dean (2004), Dietz (2004), Grönroos (2004, –07) Salanova (2005), Gelade (2005), Payne (2006), Paulin (2006), Bowen (2008), Hennig-Thurau (2006), Barsade (2002), Homburg (2004)

Table 3 presents the chronological evolution of the most relevant concepts and studies within the key paradigms of the service profit chain. According to the literature review it seems that new concepts have been introduced in each decade and emerged to complement the existing ones. The following paragraphs will define the key concepts in the service profit chain as they emerged in each decade.

Discussion on organizational climate and its impact on employee behavior started in the 1970s when Schneider (1975) started the discussion on dynamics between organizational climate and employee behavior. He and his colleagues claim that within a single organization multiple climates can exist and Schneider links organizational climate with a specific reference, such as a climate for service, support, safety and innovations (Schneider et al., 1980). Later on, Schneider defines organizational climate as follows:

> Climate has been defined as the shared perceptions of employees concerning the practices, procedures, and kinds of behaviors that get rewarded and supported in a particular setting (Schneider, 1990:384).

In their study Schneider and Bowen (1993) evaluated the service climate by using four attributes, these being managerial behavior, systems support, customer attention and logistics support. Service climate focuses on creating a work environment that supports employees to meet customer expectations as well as meeting their own needs in the workplace. Supervisors' role is to create internal processes and procedures that support the creation of a climate for service (Schneider et al., 1998b).

In the 1980s the discussion started to focus on specific characteristics of service organizations. One of the first and most prominent pieces of research was conducted by Schneider et al. (1985; 1980). They studied employee and customer perceptions of service in banks and found significant differences in these perceptions. Their research was the beginning of the extensive research into service quality in the service business context which at the beginning was, to a large extent, conducted in the business-to-consumer context.

In the late 1980s the service business aspect began to gain more attention in the strategies of manufacturing companies. Several researchers started to differentiate the distinction between service orientation and manufacturing orientation (Bowen, Siehl, & Schneider, 1989; Grönroos, 1983). The relationship perspective in service marketing started to emerge in the mid 1980s (Berry, 1983). Grönroos (1982, 1983, 1984) joined this early discussion placing emphasis on studying the business logic of service marketing. He highlighted the importance of management processes as a means of driving the entire chain of employee perceptions, customer satisfaction and revenues in service.

> Management decisions in favor of improving buyer-seller interactions imply that management is prepared to accept the revenue-generating power of employees and to support it (Grönroos, 1983:74).

Likewise, Parasuraman, Zeithaml and Berry (1988) claim that customer affective orientation is shaped by customers' service experience, created by the product or the processes. They (1988:15) carried out research in shopping malls and found that customers perceived quality based on their subjective expectations, which differed from customer to customer. Based on this finding, Parasuraman et al. (1988) created a multiple item scale to measure consumers' perceptions of service quality. They argued that service quality is related to the attitudes and affective orientations of customers. This scale, SERVQUAL, is still commonly used in studies examining customer perceived quality (Kumar, Kee, & Charles, 2010; Landrum, Prybutok, Zhang, & Peak, 2009; Sureshchandar, Rajendran, & Kamalanabhan, 2001). The SERVQUAL scale proposes five aspects be measured: tangibles, reliability, responsiveness, assurance and empathy (Parasuraman et al., 1988). Garvin (1984), in turn, defines service quality as an objective feature. He (1984) has established an eight dimensional model of service quality which includes aspects like, performance, features, reliability, conformance, durability, serviceability, aesthetics and perceived quality.

Additionally, several studies on customer perceived quality in the industrial market show that trust, commitment and overall customer perceived quality is an outcome of relationship qualities that impact on customer loyalty and retention (Grönroos, 2007a; Hennig-Thurau, Groth, Paul, & Gremler, 2006; Hennig-Thurau & Klee, 1997; Holmlund & Kock, 1995).

In the 1990s, the understanding of how employee attitudes and motivation impacts on customer satisfaction grew increasingly (Reynoso & Moores, 1995; Ryan et al., 1996; Schneider, Ashworth, Higgs, & Carr, 1996). Increased amounts of survey data, such as employee and customer satisfaction surveys, appeared and could be utilized to research behavioral phenomena in the workplace and their impacts on customers (Kelley & Hoffmann, 1997; Ryan et al., 1996; Schmit & Allscheid, 1995). Thus, the first attempts were taken to link employee and customer survey data with the organizational outcomes (Ryan et al., 1996; Wiley, 1991).

Heskett et al. (1994) introduced their model of the service profit chain process in the mid 1990's. Their model integrates relationships between employee perceptions of their organization, customer quality perceptions, customer loyalty, productivity and profitability. According to Heskett et al. (1994) customer loyalty generates market share and increased profitability.

> The service profit chain establishes relationships between profitability, customer loyalty, and employee satisfaction, [employee] loyalty and productivity... Successful service managers pay attention to the factors that drive profitability in this new service paradigm (Heskett et al., 1994:164).

Figure 5 presents Heskett et al.'s (1994:166) illustration of the linkages in the service profit chain

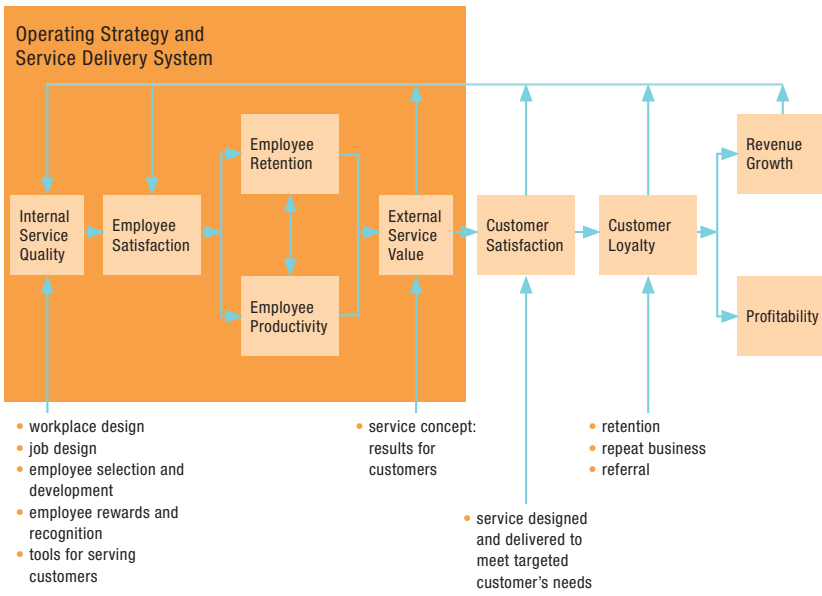

Figure 5. Service profit chain (Heskett et al., 1994:166).

Heskett et al. (1994) drew their model presented in Figure 5 based on the analysis of successful service companies such as Rank Xerox, Southwest Airlines, Taco Bell and MCI (telecommunications). Their model of the service profit chain establishes relationships between profitability, customer loyalty, employee satisfaction and employee loyalty and productivity. Their model consists of a chain of sequential sets of relationships which are steered by a specific value driver. Heskett et al (1994:165-169) define these eight value drivers as follows:

1. *Customer loyalty* drives profitability and growth
2. *Customer satisfaction* drives customer loyalty
3. *Value* drives customer satisfaction
4. *Employee productivity* drives external service value
5. *Employee loyalty* drives productivity
6. *Employee satisfaction* drives employee loyalty
7. *Internal quality* drives employee satisfaction
8. *Leadership* underlies the success of the chain

However, Heskett et al. (1994) did not provide statistical proof of the impacts of these value drivers, but recommended other researchers to continue to examine their model.

The existing service profit chain literature suggests that the climate for service and frontline employees' behaviors and attitudes predict customer perceptions of service quality and company profitability (Bowen, 2008; Heskett et al., 1997; Pugh et al., 2002). The evolution of linkage research has connected the different disciplines providing a holistic view of the overall service profit chain thinking. A more detailed description of the linkage research is presented in Section 2.4.

Studies of the service profit chain have revealed challenges in the understanding of the human element in the organization. This has resulted in increased research interest in human resource management (HRM) in a service context (Schneider et al., 1996; Schneider et al., 1993; Wiley, 1997). Schneider was among the first to start the discussion on the importance of HRM in services as early as the 1980s. He has spent his entire career studying the importance of individuals in the workplace (1987, 2008), through which he has created a framework called the attraction-selection-attrition (ASA) cycle. As discussed earlier, the ASA framework emphasizes the role of people in the creation of organizations; people drive the change, people create the processes and people build the organizational climate (Schneider, 1987).

Since 2000, the emerging research areas in the service profit chain have been on leadership that builds organizational effectiveness in service (Hui, Chiu, Yu, Cheng, & Tse, 2007; Pfeffer, 2005; Schneider et al., 2003), on understanding the role of emotions in the employee–customer interface (Hartel, Gough, & Hartel, 2008; Pugh, 2001; Pugh et al., 2002), on customer value creation and loyalty (Allen & Wilburn, 2002; Grönroos, 2007a; Grönroos, 2007b; Möller & Törrönen, 2003; Parasuraman & Grewal, 2000), on work engagement (Macey & Schneider, 2006; Macey, Schneider, Barbera, & Young, 2009; Salanova et al., 2005; Schaufeli, Salanova, & Castellan, 2007) on organizational citizenship behavior (Bell & Menguc, 2002; Bettencourt, 2001; Bettencourt, 2004) and on reverse linkages in the service profit chain (Pritchard & Silvestro, 2005; Salanova et al., 2005; Silvestro & Cross, 2000).

Additionally, at the beginning of 2000 the research on employee attitudes underlined the importance of studying organizational citizenship behavior (OCB) in a service context. OCB reflects employees' intentions to achieve high service quality that exceeds customers' expectations (Bettencourt, 2001; Koys, 2001; Yen & Niehoff, 2004; Yoon & Suh, 2003). These studies were of profound importance in developing the research of the service profit chain.

Additionally, research on service business productivity and profitability started to increase at the beginning of 2000s (Bowen & Ostroff, 2004; Gelade & Ivery, 2003; Grönroos et al., 2004; Harter et al., 2002; Koys, 2001; Ojasalo, 2003; Ramirez & Nembhard, 2004).

Pugh (2001) studied the emotional process of service encounters and how customers are impacted on by the positive affect of employees. However, Hochschild's (1983) studies on flight attendants demonstrated that if a smile is not genuine, it does not have a positive impact on customers. Several studies exist on emotional contagiousness between employees and customers (Hennig-Thurau et al., 2006; Homburg & Stock, 2004), between leader and employee (Bono & Ilies, 2006) and in workgroups (Barsade, 2002; Kelly & Barsade, 2001; Walter & Bruch, 2008). Thus, it is apparent that positive emotions and positive behaviors are important building blocks for successful service businesses.

Part II of this thesis will provide additional information on how positive emotions and positive behaviors, such as helping others, appreciation, gratitude and trustworthiness could cultivate the creation of value in the service profit chain.

To summarize, for service companies seeking for striving for profitable service business, it is crucial to understanding the concepts embedded in the SPC theories and studies and how these concepts are linked with each other. In fact, the next question relates to how the elements of a profitable service business are linked together which brings the discussion to linkage research.

2.4 Evolution of Linkage Research

Linkage research focuses on examining the correlations and links between different elements in the service profit chain. Research into linkage models started to develop during the late 1990s. Several researchers have contributed to the development of the current linkage research (Hallowell, 1996; Hallowell, Schlesinger, & Zornitsky, 1996; Heskett et al., 1997; Johnson, 1996; Pugh et al., 2002; Rucci, Kirn, & Quinn, 1998; Wiley, 1996). Wiley define:

> Linking research involves integrating and correlating data collected from employees with data in other key organizational databases. The purpose of linkage research is to identify those elements of the work environment-as described by employees-that correlate, or link, to critically important organizational outcomes, such as customer satisfaction and business performance. (Wiley, 1996:33)

The evolution of linkage research has emerged through different subjective viewpoints, such as leadership practices, employees' perceptions of their organization, customers' perceptions of service quality and organizational outcomes.

The linkage model depicted by Bowen (2008:164) and presented in Figure 2 is a general perspective of his suggestion of the linkages in the service profit chain.

In order to understand the origins of the most current linkage model by Bowen (2008), a brief history review is needed. In Figure 6 below, a view of the evolution of linkage research is presented where the main concepts and fields of research are shown chronologically representing four different perspectives: leadership practices, employee perceptions, customer perceptions and organizational outcomes.

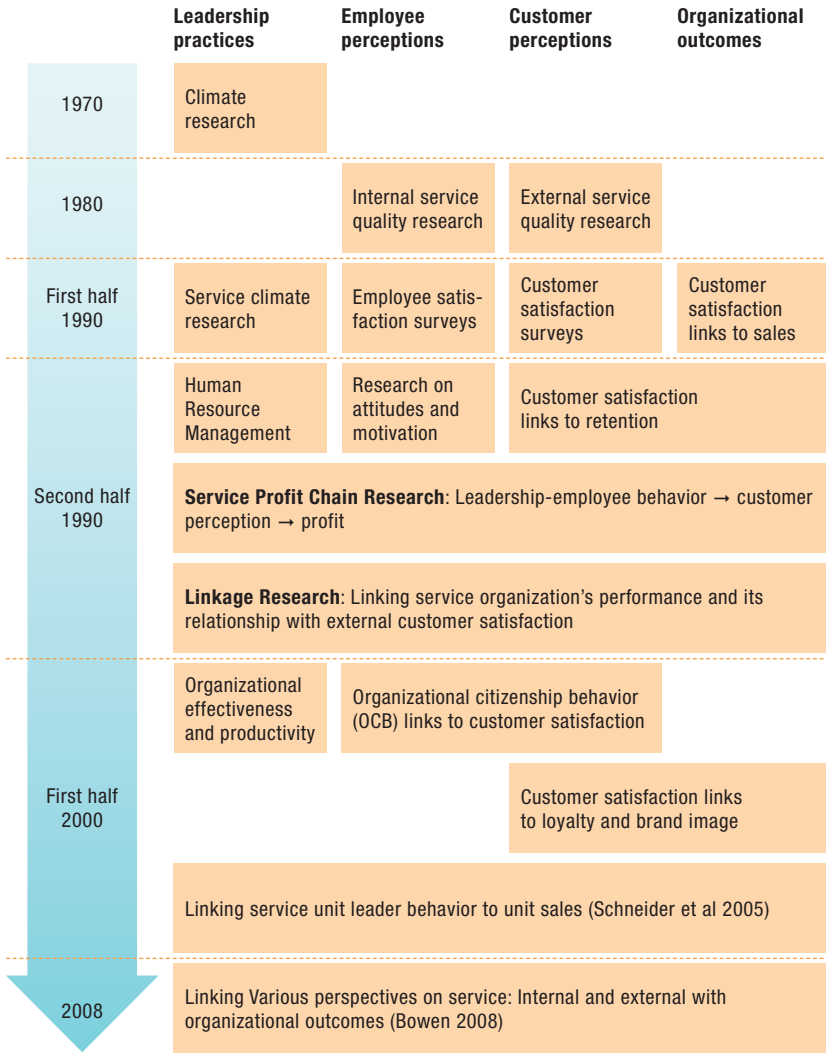

Figure 6. Evolution of the research on linkages in the service profit chain.

As highlighted in Figure 6, these four perspectives of different fields of research were considered as separate fields of researches until the mid 1990's when the first cross-disciplinary approaches, such as the work of Heskett et al. (1994) and Wiley (1996) were published. However, the seminal study by Schneider, Parkington and Buxton (1980) on banks suggested that employees' and customers' perceptions of service quality were different. They were among the first to rec-

ommend that studies on service quality should consider collecting data both from employees and customers.

During the first half of the 1990's an increasing number of employee and customer satisfaction surveys were conducted (Paradise-Tornow, 1991; Tornow et al., 1991; Wiley, 1991). However, the cross-disciplinary integration only happened when the service profit chain theories were introduced in the mid 1990s (Heskett et al., 1994). Since then, the studies have focused more on examining the inter-dependencies and dynamics of the overall chain rather than the characteristics of individual perspectives. The following paragraphs take a closer look at how the evolution of the linkage research in service profit chain literature has evolved as shown in Figure 6.

In the 1970s the first studies on organizational climate and employees behavior in the workplace were published (James et al., 1974; Schneider, 1975). Schneider et al. (1980) carried out the first studies on the linkages between customer satisfaction and employee behavior in branch offices in the banking business. At the same time, business organizations started to be interested in collecting employee and customer satisfaction survey data, which in turn increased the interest among the researchers. Service profit chain research grew at the beginning of the 1990s when cross-disciplinary scholars started to integrate the previous studies in organizational management with the operations and marketing research. The current linkage research integrates internal elements, in particular leadership practices and employee perceptions, with external elements, such as customer satisfaction and loyalty. According to several studies customer perceived quality and loyalty predicts organizational outcomes, such as profitability and market share (Hallowell et al., 1996; Heskett et al., 1994; Johnson, 1996; Schmit et al., 1995; Wiley, 1996).

Wiley and Tornow (Tornow et al., 1991; Wiley, 1991) were among the first researchers to use the term linkage research in reference to modeling and measuring the linkages in the service profit chain process. Wiley (1996) conducted quantitative analysis using employee and customer data and organizational performance data. The research data was collected from retail branch banking with the linkages being authenticated through correlations analysis. Wiley (1996) wanted to find the elements in the working environment that correlate with organizational outcomes such as customer satisfaction and business performance.

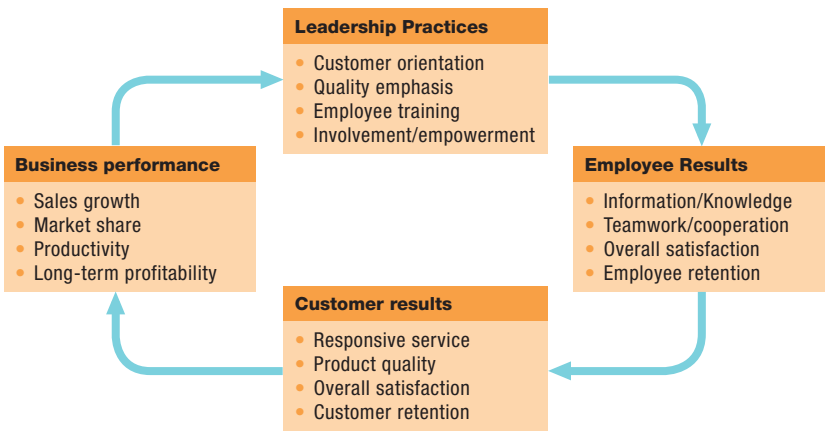

Figure 7. Linkage model (Wiley, 1996:337).

Wiley's model in Figure 7 differs from the other linkage models in its dynamic and iterative characteristics.

One of the first linkage researches covering the entire SPC process was provided by Rucci, Kirn and Quinn (1998). Their study provides results from research conducted in a national retail chain of 400 shops in the USA providing consumer healthcare products. Rucci et al (1998) point out that the key driver in a successful B-to-C service business is organizations' service capability i.e. employees' ability to fix customer problems. In the research presented by Rucci et al. (1998) service capability was high in stores where employees received training, team work functioned well and where store management emphasized service quality. Their study shows that an improvement of employee attitudes by 5 percentage points predicted a 1.3 percentage point improvement in customer ratings of the service staff. Additionally, a 1.3 percentage point increase in customer ratings of the service staff led to a .5 percent improvement in sales.

Pugh et al. (2002) discuss some way towards validating the results supplied by Rucci et al. (1998) by providing three practical elements to express how the implementation of service profit chain thinking can contribute to an organization. Firstly, the service profit chain concept provides a common terminology and story for the organization to understand what drives the service business and how organizational elements create service capability and value for customers and ultimately, the bottom line. The story provides a framework for management and employees to better understand their role and meaning in the service profit chain. Secondly, the employee opinion surveys support establishing a scorecard, i.e. assessment criteria, to develop and drive service excellence (Service Excellence Index) and thirdly the Service Excellence Index can be used as an early indicator of the future sales performance. Pugh et al. (2002) continue by suggesting that service climate and service capability are the key drivers that impact on customers' ratings of service staff. They claim that service capability and service climate have the strongest connection to customer satisfaction and financial performance.

> Linkage models position service climate and service capability as the engines that drive customer satisfaction and work satisfaction as a by-product and potential turbo that further enhances that engine's power. (Pugh et al., 2002:77)

Gelade et al. (2005) studied linkages in the service profit chain in the retail banking sector. They examined as to whether a relationship exists between organizational climate and employee commitment and if customer satisfaction mediates the relationship between employee commitment and sales achievement. They measured organizational climate using three employee survey data dimensions, being team climate, job enablers and support climate. Their structural equation model verified two results. Firstly, organizational climate had a direct and significant link to employee commitment. Secondly, customer satisfaction mediated the relationship between employee commitment and sales achievements.

Additionally, Schneider Ehrhart, Mayer, Saltz and Niles-Jolly (2005) attempted to find more evidence of the linkages between the constructs in the service profit chain model. Their intent was to challenge the robust findings in the literature of a direct link between service climate and customer quality perceptions (Schneider, 2000:26-32). Therefore they proposed that this relationship may

not be appropriately conceptualized solely as a direct link between constructs in the service profit chain.

Schneider et al. (2005) tested how employee perceptions of their organization predicted customers' perceptions of service quality, and how customers' perceptions of service quality predicted unit sales. The reseach data consisted of employee and customer replies from 56 supermarket departments. They (Schneider et al., 2005:1019) examined three different mediating roles in the service profit chain as shown in Figure 8. Firstly, the mediating role of unit service climate between unit service leadership and unit customer focused OCB. Secondly, the mediating role of unit customer focused OCB between unit service climate and customer satisfaction. Thirdly, the mediating role of unit customer satisfaction between unit customer focused OCB and unit sales. The illustration of the research set-up and results are in Figure 8.

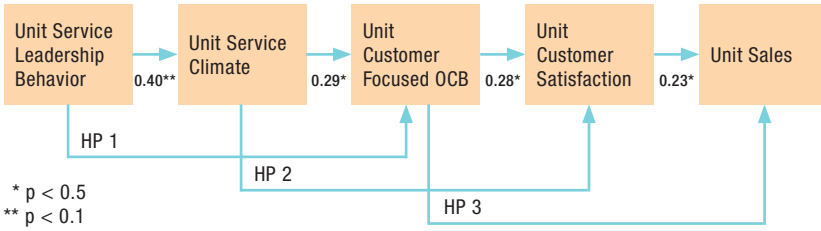

Figure 8. Model linking unit leader behavior to unit sales (Schneider et al., 2005:1018).

As shown in Figure 8, all the hypothesized links were found to be significant. Schneider et al. (2005) started to test the hypothesis by estimating the path coefficients between different constructs in the service profit chain model. The result was that the unit service climate was found to mediate between unit service leadership behavior and unit customer focused OCB. As illustrated in Figure 8, the unit service climate is placed in the centre (HP1), when building the unit customer focused OCB. This is an extremely important finding. The hypothesis that leaders can impact on the climate, but not directly on the behavior of the employee, is a fundamental change in the thinking in service profit chain literature. This was an interesting finding, as the literature has numerous indications that there is a direct link between leadership and OCB (Podsakoff, MacKenzie, Paine, & Bachrach, 2000). Schneider et al. (2005:1025) also concluded that unit customer focused OCB fully mediated between the service climate and customer satisfaction. The findings of Schneider et al. (2005) are important and reinforce the former studies on the service profit chain and organizational climate (Lindell & Brandt, 2000).

Finally, Bowen collected the ideas from several studies on the service profit chain and linkage research from multiple writers over several decades and built the model presented in Figure 9.

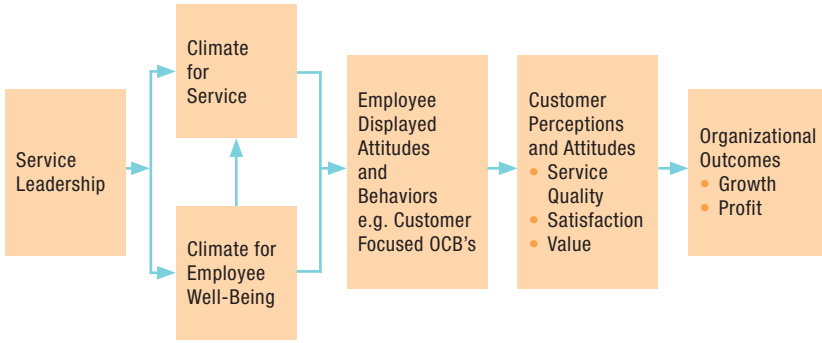

Figure 9. Linking various perspectives on service (Bowen, 2008:164).

The linkage model depicted by Bowen in Figure 9 is a general model of the internal and external linkages with organizational outcomes. His generic model is a consolidation of previous studies which integrates some of the findings of Schneider et al. (2005) such as that employee displayed attitudes and behaviors mediate between organizational climate and customer perceptions and attitudes.

Grönroos (1983:73-74) suggested in his early studies that satisfied customers have a positive impact on the internal atmosphere of the supplier. He also proposed that positive changes in the internal atmosphere build employee motivation to provide higher service quality, which in turn impacts on the corporate image (i.e., brand) and increases sales. Therefore, the impact customers have on employees and on the outcome of service businesses should not be underestimated.

Heskett et al. (1997:19) were among the first to propose the existence of reverse links in the service profit chain model. They hypothesized that customers and employees in a B-to-C context have a close interaction which reinforces mutual benefits. Heskett et al. (1997:99) have conceptualized the satisfaction mirror effect as an reciprocal relationship between customer satisfaction and employee satisfaction in a service context. Their illustration and suggestion of some of the interdependencies between the variables is presented in Figure 10.

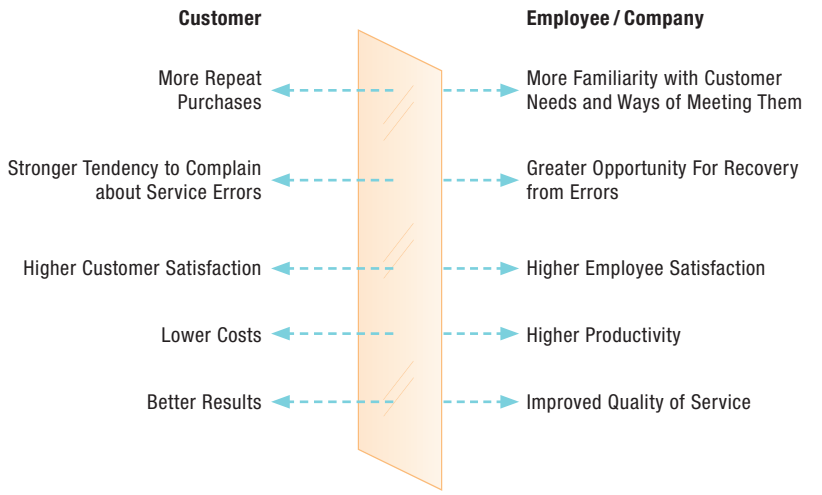

Figure 10. The satisfaction mirror effect (Heskett et al., 1997:101).

Although the arrows in Figure 10 are bilateral, most of the relevant research (Heskett et al., 1997:101; Pritchard et al., 2005; Silvestro et al., 2000) has focused on examining links from inside out, from supplier to customer, not vice-versa. However, some studies reveal a strong reciprocity in the relationship between customer satisfaction and internal organizational functioning in the business-to-consumer context (Ryan et al., 1996; Salanova et al., 2005; Schneider et al., 1998b). The reason for the rather sparse evidence in support of the satisfaction mirror effect might be due to the lack of longitudinal data and the somewhat limited usage of statistical methods that test causalities.

In Figure 10 Heskett et al. (1997) illustrate the relationship between employee/company productivity and lower costs on the customer side. Thus, the next section describes how productivity is defined in the services marketing literature and what the processes and means that impact on productivity are.

2.5 Productivity in the Service Business

Productivity in the service business is linked to suppliers' capabilities to provide high service quality through processes and competent personnel (Carmeli, Gilat, & Waldman, 2007; Schneider et al., 1998b; Sowinski, Fortmann, & Lezotte, 2008). The existence of several paradigms focusing on productivity shows that the definition needs clarification and operationalization in the service business context (Grönroos, 2007b:14). In manufacturing firms, productivity is measured through internal efficiency (Hannula, 1998) and calculated as the ratio of output divided by used resources (Loggerenberg & Cucchiaro, 1981:4). However, these definitions do not apply to the service context (Grönroos et al., 2004).

Customers' role in creating both quality and productivity is crucial in services if customers' role is less significant in goods manufacturing. Several authors argue that in service operations, the customer plays an active role in influencing productivity and quality (Dyer & Hatch, 2006; Grönroos et al., 2004; Gummesson, 1998; Ojasalo, 1999). Recently, Parasuraman has claimed that (2010) productivity in services is "performances" that are usually produced and consumed in the interactions between producers and customers. This assumptions is in line with the service-dominant logic (Vargo, Maglio, & Akaka, 2008), which postulates that customer is the co-creator of the value in services, productivity in this case. Thus, due to the characteristics of service-dominant logic, the dual company-customer perspective in productivity should not be ignored in companies with a manufacturing background (Parasuraman, 2010).

Gummesson (1998) argues that productivity in the service business is created in three ways: by the supplier, by the customer and in the supplier-customer interactions. He introduces a model to clarify the productivity aspects in the service business shown in Figure 11. He introduces two novel concepts, interactive productivity and interactive quality. As presented in Figure 11 he suggests that the productivity and quality in services emerges from three different sources: (1) from the service provider's internal productivity and quality, (2) from the customer's internal productivity and quality (3) productivity and quality resulting from the supplier-customer interaction.

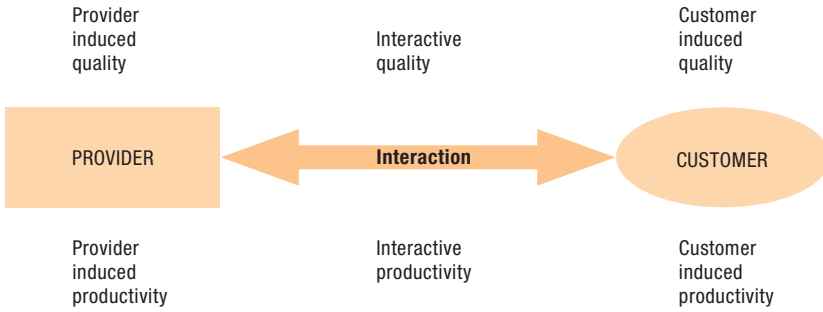

Figure 11. Interactive quality (Gummesson, 1998:9).

According to Gummesson, interactive productivity is created when the service provider and the customer are interdependent and gain mutual benefit from their interactions. Interactive productivity and quality is created through relationship learning which in turn increases productivity in the overall service profit chain. Gummesson (1998) continues by saying that customers' knowledge and willingness to participate in the service production and delivery process is crucial.

The link between learning in interactions, also called relationship learning, and productivity in services has been promoted by several authors (Dyer et al., 2006; Grönroos et al., 2004). Selnes et al. (2003) propose that relationship learning enables both supplier and customer to reduce and remove redundant costs, improve quality and reliability and increase speed and flexibility. Their study confirmed that the learning capability in a relationship has a strong, positive effect on performance. Selnes et al.'s (2003) theory has similarities to the concept presented by Gummesson (1998:9) in Figure 11. They (Selnes et al., 2003:80) separate relationship learning from organizational learning by defining it as interfirm knowledge sharing. Their theory suggests that learning in a supplier-customer relationship is developed by facilitating an information exchange and by developing common learning arenas with willingness to co-operate and mutual trust being the key enablers of genuine relationship learning. Similarly Senge, Jaworski, Scharmer and Flowers (2005) link interactions closely to learning and the building of capabilities in organizations:

> All learning is about how we interact in the world and the types of capabilities that develop from our interactions (Senge et al., 2005:9).

Further to this, Dyer et al. (2006:705) claim that when a supplier receives productivity assistance, such as knowledge transfers from a particular customer, the productivity of that relationship is higher than with the same supplier and its other customers. Grönroos et al. (2004) define service productivity as a function of

> (1) how effectively input resources into the service (production) process are transformed to outputs in the form of services (internal efficiency), (2) how well the quality of the service process and its outcome is perceived (external efficiency or effectiveness) and (3) how effectively the capacity of the service process is utilized (capacity efficiency) (Grönroos et al., 2004:414).

Grönroos (2007b:233) goes as far as to claim that customers decide what high productivity is in the service business and what is not.

In summary, the key difference between productivity in the manufacturing and service business is that in services the total productivity is a sum of suppliers' and customers' productivity added with the productivity emerging in their interaction. Thus the traditional narrow definition of productivity should be replaced with a more holistic definition of productivity in services. This holistic definition could apply a more systemic approach (Ackoff, 1999), in seeing the service delivery system as a whole and not as the optimization of its parts. Features of systems thinking theory can be applied to the service business. To introduce systems thinking, companies need to change their mental models (Senge, 1990). They need to see themselves as forming a co-creation system together with the customer, rather than seeing themselves and customers as separate systems.

The detailed literature review, presented in this chapter, suggests that several gaps exist in the SPC and linkage research. Firstly, Schneider et al. (2000, 2005) questioned whether the service climate of a business unit has a direct link with customer perceptions, or is it the individual employee's behavior that has a larger impact on customer perceptions. Secondly, empirical data from a single B-to-B company would provide an interesting new research approach to examining the relationships in the SPC process. Thirdly, methods such as structural equation and path modeling could be used to test these relationships. In addition to this, the human elements such as positive emotions and positive behaviors in the services businesses should receive more attention. Therefore, this thesis will contribute the exciting literature by testing a linkage model using path modeling and data from two employee groups having different types of interactions with the customers in a B-to-B service context. Further to this, Part II of this thesis will integrate service profit chain thinking and results of the theory testing in Chapter 5 with existing studies and theories of positive organizational scholarship.

The next chapter presents the conceptualization of the linkage model depicted by Bowen (2008).

3 Conceptualization of the Linkage Model Depicted by Bowen

This chapter presents the conceptualization process and methodology used to build the link between the existing SPC and linkage research and the linkage model depicted by Bowen (2008). By the conceptualization of the linkage model I refer to an analysis that links the conceptual level of the concepts used by Bowen in his model with key research in the respective fields. To my knowledge this is the first time the concepts describing each of the six constructs in the linkage model presented in Figure 2 have been conceptualized. According to Singleton and Straits (2005), conceptualization is an essential step in a research aimed at testing an existing theory:

> To understand fully what the theory means and to arrive at an appropriate set of observations for testing it, one must know the meaning of these concepts. Thus, the initial step in measurement is to clarify the concepts embedded in one's theories and hypothesis with words and examples, ultimately arriving at conceptual or theoretical definition (Singleton et al., 2005:77)

As can be seen in Figure 12 the linkage model includes six constructs. Four of those constructs describes internal elements: service leadership, climate for service, climate for employee well-being and employee displayed attitudes and behavior. One construct describes external elements: customer perceptions and attitudes whereas the sixth construct, organizational outcomes, is a shared construct that includes benefits for both supplier and customer. This last construct consists of customer loyalty and retention, productivity and profitability metrics. Figure 12 summarizes the conceptualization of each construct in the linkage model depicted by Bowen (2008) as described in this chapter.

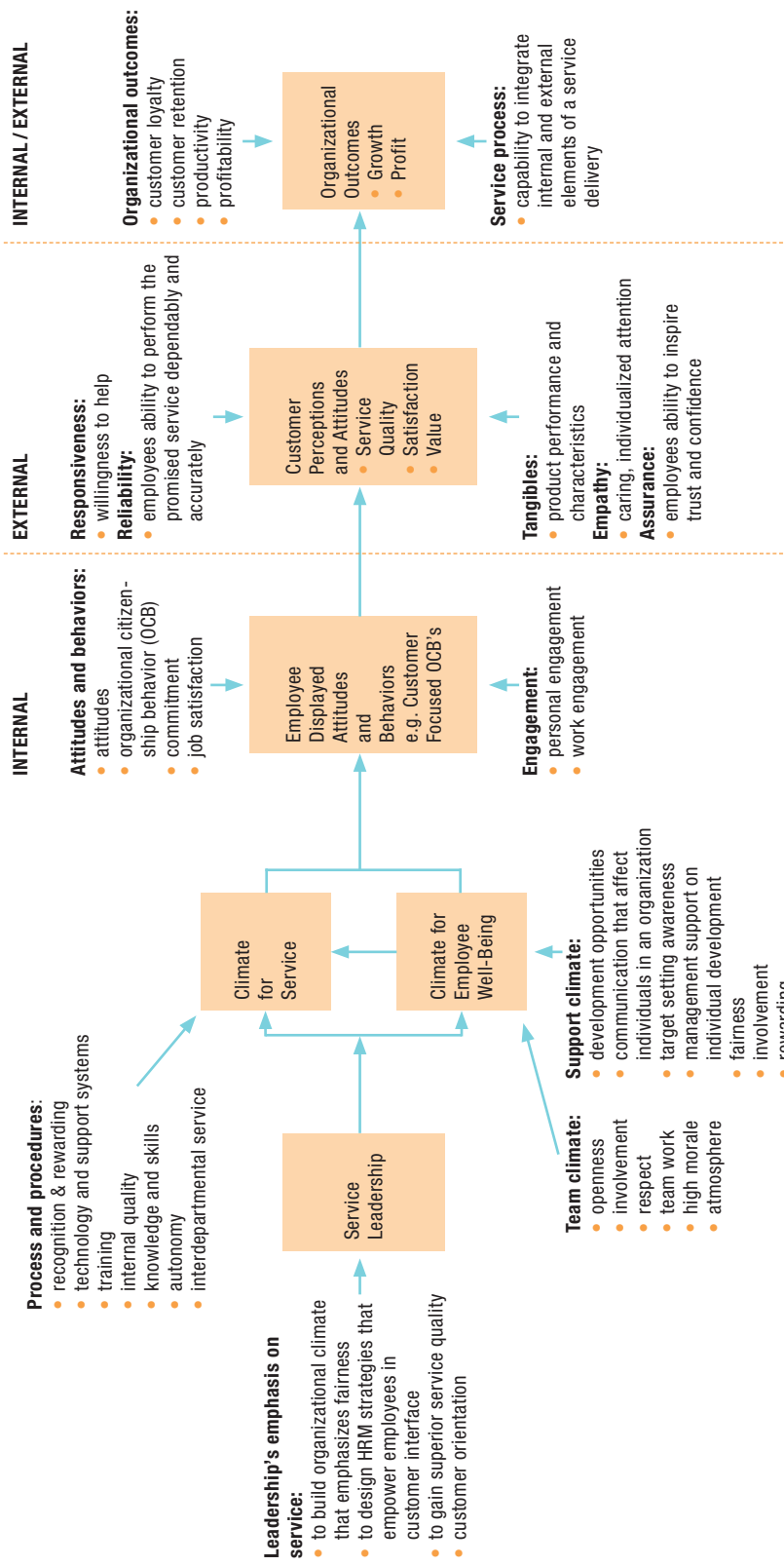

Figure 12. Conceptualization of the linkage model depicted by Bowen (2008)

The aim of this chapter is to trace these elements back to the existing SPC theories. A detailed study of the concepts integrated into each construct in the linkage model presented in Figure 12 is essential, to support the operationalization process and the creation of the linkage model to be tested in Chapter 5 using the empirical data.

3.1 Constructs in the Linkage Model

The linkage model drawn by Bowen (2008) is a conceptual model of the linkages in the service profit chain between the organization and its customers. Bowen does not, however, explicate in detail which concepts are embedded in different constructs of his model. Therefore a literature review has been conducted using existing service profit chain and linkages research literature to discover which concepts researchers have associated with different constructs included in the linkage model shown in Figure 12.

The main idea in the linkage model in Figure 12 is that it integrates several concepts from several theories and links them together. Bowen's (2008) article is primarily an integration of former discussions rather than a criticism or analysis. Thus, Bowen (2008:170) advises that supplementary studies are needed to create evidence supporting the existence of the linkages in his model, especially the link to profit. Moreover, he calls for more studies into moderators and boundary conditions and employees' role in the facilitation of coproducing with customers. Bacharach (Bacharach, 1989:499) suggests that spatial boundaries are conditions restricting the use of a theory to specific types of organizations. Therefore the testing of the linkage model presented in Figure 12 with B-to-B data may reveal novel information related to the boundary conditions compared to a B-to-C environment.

Both Bowen (2008:170) and Schneider (1990) highlight the need for studies on employees' attitudes and behaviors to better understand the importance of every single employee in a service organization. Schneider emphasizes the idea that everyone in a service organization should be delivering quality to their internal and/or external customers (Schneider, 1990:397).

The following subsections describe in detail each of the constructs in the model presented in Figure 12 and build the link between different concepts and the model. Conceptualization builds the foundation to create the linkage model to be tested using empirical data.

3.2 Service Leadership

The first construct in the linkage model in Figure 12 is called service leadership. Schneider et al. (Schneider et al., 2003; Schneider et al., 1998b) have defined it as leadership that puts emphasis on service quality and they further define service leadership as a specific kind of leadership, that communicates a commitment to high levels of service quality throughout the entire service organization (Schneider et al., 2005:1018). In addition, Schneider (1998b) suggests that service leadership is the managerial attention paid to the building of processes and practices that support the frontline employees to serve the customer best.

The linkage model in Figure 12 links service leadership with two specific climates; climate for employee well-being and climate for service. Several authors have made their contribution to the SPC literature by conceptualizing specific leadership approaches which create those organizational climates specifically important in a service context. Leadership strategies that foster the creation of a climate for service focus on human resource management practices (Bowen et al., 2004; Gelade et al., 2003; Schneider, 1991) and to the collection of customer feedback (Pugh et al., 2002; Schneider et al., 1998b; Wiley, 2006). In addition, several studies have validated the link between the climate for fairness with customer satisfaction (Bettencourt & Brown, 1997; Bowen et al., 1999; Cropanzano, Bowen, & Gilliland, 2007). Further to this, research on the service profit chain has shown that empowered employees are more likely to create higher customer satisfaction leading to higher loyalty and retention.

The focus of strategic leadership upon customer orientation is seen as a key driver to deliver superior service quality and high customer satisfaction and retention (Heskett et al., 1997). Schneider et al. (2005:1018) point out that leaders who emphasize the importance of service quality will be more likely to do the things necessary to create a climate for service. Several researchers (Hallowell et al., 1996; Johnson, 1996; Pugh et al., 2002; Schneider et al., 1998b; Wiley, 2006) claim that the leadership strategy to gain superior service quality and its communication to the front line employees is a key success factor in a service organization.

Schneider et al. (2005:1018) characterize the importance of leadership attention in service context:

> as a set of behavioral features, each of which sends a signal about the imperatives of a given setting. Thus, it is not only what leaders emphasize in their own actions, but the bundle of behavioral features of the environments they create and maintain that signals a strategic climate of interest.

Similarly, Hui et al. (2007) have studied how service climate moderates the effects of the leadership behavior of supervisors on employee service quality. Their study included 55 work groups in six different service companies. Their research results showed that the service quality provided by employees was low when both service climate and supervisor leadership behavior were lacking. Additionally, they found that when the service climate was good, a supervisor's leadership behavior did not make a substantial difference. In addition, Hui et al. (2007) found that when the organization and its working environment were not contributing to support colleagues and customers, the supervisor's leadership behavior made an important difference. Thus the results provided by Hui et al. (2007) suggest that when peers help others the team can achieve higher performance results and compensate for missing leadership.

To summarize, leadership strategy is clearly a competitive advantage for a service business. Leaders signal the strategic interest by their own actions and their behavioral features which signal the strategic intention to the organization. Employees catch these signals and build their own assumptions of how to behave with customers.

3.3 Dimensions Impacting on Organizational Climate and Culture

According to (Schneider & Bowen, 2010a) leaders' role is to coordinate the various subsystems, such as operations, marketing, human resource management of a service organisation to act as one system. They claim that the coordination emerges through the creation of a service climate and culture. Bowen (2008) suggests in his linkage model that climate for service and climate for employee well-being are the antecedents of employee displayed behaviours and attitudes. In order to understand the mechanism how these climates may impact on employee behaviours and attitudes, it is thus important to recognize what the dimensions are that impact on organizational climate and culture.

Several researchers suggests that organizational climate and culture play an important role in organizational performance (Cameron 2008, 17-19; Glisson 2007). Organizational climate and culture have previously been found to have links to, for example, productivity and innovations (Kopelman, Brief, & Guzzo, 1990), employee performance (Borucki et al., 1999), staff turnover (Boshoff & Allen, 2000), service quality (Schneider, 2008; Schneider et al., 1998b), and organizational effectiveness (Cameron, 2008; Glisson, 2007).

As the concepts of organizational climate and organizational culture are sometimes used as synonyms, it is important to clarify the assumptions adopted in this research. Culture and climate are seen as two distinct constructs in the manner proposed by several researchers (Avey, Wernsing, & Luthans, 2008; Denison, 1996; Glisson, 2007; Schein, 2000; Schneider, 1990).

Organizational culture refers to the deep structure of the organization, which is embedded in the values, beliefs and assumptions possessed by its members (Denison, 1996:624). Whereas, Schneider et al. (2004) claim that organizational climate is constructed through the perceptions of the actors in the organization and their attitudes towards the practices and policies that are in place and they continue by stating that organizational climate carries the underlying assumptions "what is important around here" (Schneider et al., 2004:93). Schein (2000), one of the pioneers of organizational research, defines organizational climate:

> ...as the cultural artifact resulting from espoused values and shared tacit assumptions Schein (2000:xxix).

Schein (2000) continues by giving examples of how climate impacts on employees' behaviors: a climate of openness cannot be created if the history of that organization shows that the messenger bringing bad news is punished. Further to this, an organization that strives for a climate of empowerment and participation will fail if the underlying assumptions are that bosses are right and employees should do what they are told. Thus climate can be changed only to the degree that the desired climate is congruent with the underlying assumptions (Schein, 2000:xxix). Rentsch et al. define the characteristic of the organizational climate:

> ...as the set of shared perceptions of the policies, practices, and procedures that an organizations rewards, supports, and expects that is developed through group interaction (Rentsch, Small, & Hanges, 2008:132).

Several researchers separate organizational climate and culture constructs by claiming that *organizational climate* is a property of the individual, having individual orientation, whereas *organizational culture* is the property of the organization and captures the way things are expected to be done (Glisson, 2007; Schneider, 1975). James et al. (2008) describe the differences:

> Simply put, climate reflects an individual orientation and is a property of the individual, whereas culture reflects a system-level orientation and is a property of the system. This individual-versus-system orientation is a key to set climate and culture as two distinct constructs. (James et al., 2008:21)

Additionally, many researchers suggest that organizational climate is formed in the interactions between the members of a unit (Lindell et al., 2000; Rentsch et al., 2008; Schneider et al., 1980).

> The climates of organizations emerge out of the naturally occurring interactions of people" (Schneider et al., 1980:254)

Several authors (Glick, 1985; Glisson, 2007; James et al., 1974; Schneider, 1975) claim that psychological climate mediates between organizational culture and climate. They characterize psychological climate as an individual perception whereas organizational climate reflects a shared and aggregated perception of the members in an organizational unit, such as a team or a department.

> The psychological climate is individual employee's perception on how the work environment impacts psychologically his or her personal well-being (James et al., 1974).

Each member has his/her personal lenses which shape their individual perceptions and behaviours in the workplace.

In order to examine the link between psychological climate and organizational climate, James and James (1989) studied general factors underlying personal climate perceptions and creation of personal meaning at work in four different employee groups: navy personnel, systems analysts, production-line personnel and fire fighters. They studied how four personal climate factors reflect a cognitive consideration of the degree to which the overall work environment is believed to be personally beneficial versus personally unfavourable to the organizational well-being. The four factors were (1) role stress and lack of harmony, (2) job challenge and autonomy, (3) leadership facilitation and support (4) workgroup cooperation, friendliness and warmth. Their study revealed several interesting facets. Notably, the four employee groups perceived the above listed four personal climate factors differently. The most important factor for all employee groups was leadership facilitation and support whilst dissimilarities were found especially in employee perceptions of their work group cooperation. Fire fighters assessed the role of work group cooperation highly in terms of impacting on their psychological climate perceptions, on the other hand navy personnel indicated work group cooperation as the least important for them (James et al., 1989:745).

The study by James et al. (1989) displays that employees working in a unit may perceive their work environment differently than those working in another unit. This in turn supports the view that the individual employee's perceptions of a unit can be aggregated to describe the unit climate (Jones & James, 1979; Joyce & Slocum, 1984). Additionally, the study by James et al. (1989) supports the earlier described ASA framework, which proposes that organizations are functions of the kinds of people they contain (Schneider, 1987).

Within a single organization, multiple climates exist and Schneider links organizational climate with a specific reference – for example, a climate for service, support, safety and innovation. In service organizations, leaders have a key role in building the climate that emphasizes the importance of service quality as well as the role of employee behaviours and attitudes in the customer interface (Schneider et al., 2005:1018).

As defined above, organizational climate is the collective perception of the employees and can be considered to be directly attributable to leadership strategies and practises. Schneider (1990) carried out a review of climate research in order to define the climate construct. He concludes that some dependent variables or strategic focus of interest is needed to drive research on the climate construct. Schneider (1990:386) sees the climate as a construct that includes everything that happens in the organization. He prefers to analyze the climate through the perceptions of the individuals in the organization, rather than as a reflection of an existing structure. Schneider (1990:xiii) states that the organizational climate is built through individual experience and is shared collectively. The individual experience actualises in the interaction with other members of the organisation. He claims that people make the organizations what they are and sees the environment as a function of the persons acting within it (Schneider, 1987:438).

An illustration of the organizational social context has been developed by Glisson (2007:739) and is presented in Figure 13. This illustration positions the concepts defined above onto a broader canvas.

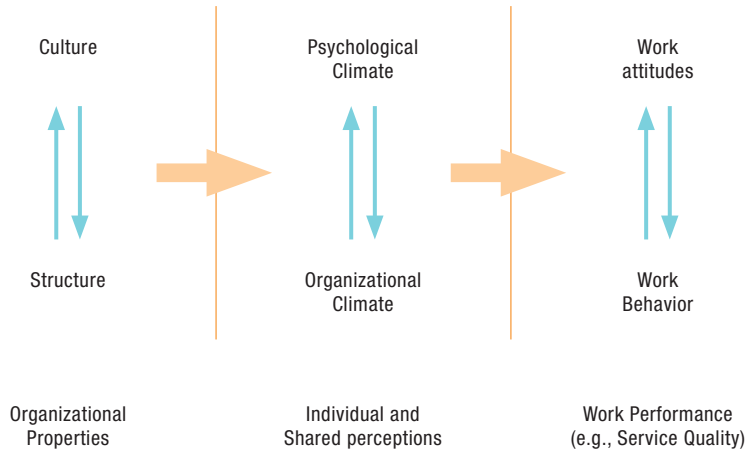

Figure 13. Conceptual model of organizational social context (Glisson, 2007:739).

In order to understand how culture and climate impact on an individual's behavior and performance it is necessary to comprehend how the transmission between separate layers in Figure 13 functions.

Individuals create their personal, subjective interpretation of the elements in organizational climate through meanings. These meanings are created in workplace relationships (Denison, 1996; Gamst, 1995; Heaphy & Dutton, 2008; Kopelman et al., 1990; Wrzesniewski, 2003). Moreover, workplace relationships shape work attitudes and individual behaviors (Rentsch et al., 2008).

Kopelman et al.'s (1990) proposal of the linkages between organizational culture and productivity is presented in Figure 14. This model illustrates how societal and organizational cultures drive organizational climate, employee behavior and organizational productivity.

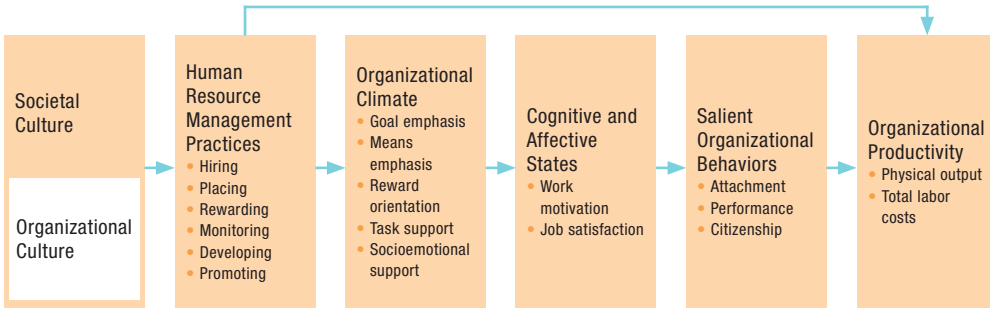

Figure 14. A model of climate, culture and productivity (Kopelman et al., 1990:289).

Kopelman et al.'s (1990) model describes how societal culture and organizational culture drive organizational productivity through climate and employee cognitive and affective states. Individuals interpret the organizational culture through human resource management practices (HRM). Moreover, as presented in Figure 14, organizational climate is an important mediating construct in explaining relationships between HRM practices, such as hiring, rewarding and promoting and organizational performance, such as productivity. Thus HRM practices have a significant role in establishing employees' perceptions of organizational climate. These perceptions are formed by the existence of formal and informal policies, practices, and procedures (Reichers & Schneider, 1990). Kopelman et al. (1990) suggest that all organizations operate within a societal cultural context. That context is defined in terms of shared meanings and values or observable behaviors and artifacts (Kopelman et al., 1990:288). The model presented by Kopelman et al. (1990) in Figure 14 emphasizes the following causal order: organizational culture drives human resource management practices which drives organizational climate, which impacts on individuals' cognitive and affective states that create their behavior resulting in performance, such as productivity.
Salancik and Pfeffer (1977, 1978) likewise believe that organizational climate is built by social information processing in which attitudes, beliefs and job characteristics are interpreted. Socialization process and interactions are the transmitters between organizational culture, climate and individuals' behaviors.

> The social information processing approach begins by arguing that characteristics of the job or task, such as style of supervision or conditions of the workplace, are not given but constructed (Salancik et al., 1978:227).

The socialization process describes how employees learn to fit into a new organization or job, it is a process through which an individual learns the attitudes, behaviors and knowledge that is expected of them in a certain role (Chao, 2005).

A common understanding is that those employees who are well socialized into the organization will also remain there (Baker W. & Dutton, 2007; Chao, 2005). This is an important element in the service business. Firstly, in customer service, a sustainable relationship with a specific contact person is preferable, which leads to accumulated competencies and knowledge which increases organizational learning and ultimately, productivity.

Meaning at work seems to be a key attribute that impacts on individual psychological climate and influences the human mind and the behaviour that shapes the organizational climate. Folkman (1997) suggests that positive behaviours transform ordinary moments into positive events creating positive meaning and positive emotions. Moreover, these positive events may help reestablish psychological resources such as social support, self-esteem and hope (Folkman, 1997:1217). Further to this Dutton and Heaphy (2003) report a strong relationship between the quality of interaction and the creation of meaning in the workplace. They (Dutton & Heaphy, 2003:268) list four theoretical lenses that help to understand how high-quality connections (HQCs) leave an imprint, such as meaning, on people in the workplace. These four theoretical lenses are exchange, identity, growth and knowledge. High-quality connections play a significant role in creating the meaning that employees can assimilate concerning themselves more broadly and their organizations (Dutton & Heaphy, 2003:269). Dutton and Heaphy (2003:267) propose that high-quality connections possess three common subjective experiences being feelings of vitality and aliveness, positive regard and mutuality. This view incorporates the premise that relationships, at their best, cultivate people towards realizing their potential and well-being as human beings. Furthermore, high-quality connections create thriving organizations (Dutton & Heaphy, 2003)Organizational change programs have a tendency to change the organizational culture. Managers, when talking about changing a company culture, in most cases mean that the organizational climate ought to be changed. However, the climate will not change if the underlying assumptions are not changed. Organizational culture often reflects the stories that are in the air and it is these stories that need to change to pave the way for more fundamental change, meaning a change in the mindsets, i.e. mental models of individuals (Senge et al., 2005).

The distinction between organizational culture and organizational climate constructs has not been clear for managers, but it is important to stress that it has been similarly unclear for researchers. To bridge this gap, Denison (1996) conducted an extensive overview of the organizational climate and culture literature concerning their dominant differences or overlaps. He situates culture and climate into two different disciplines, culture in sociology and anthropology and climate in psychology. Denison (1996:625) assembled and summarized his findings, presented in Table 4. Payne has built on Denison's table to emphasize a different point of view (items in italics).

Table 4. A comparison of culture and climate after Denison (Payne, 2000:166).

Focus	Culture	Climate
Epistemology	Contextualist	nomothetic/comparative
Point of view	natives' *(via researcher)*	researcher's *(via natives')*
Methodology	Qualitative	Quantitative
Concern	values and assumptions	consensus of perceptions
Theoretical foundation	social construction/critical theory	B= *f* (P,E)
Discipline	anthropology/sociology	Psychology

The two constructs of culture and climate found in Table 4 present the views of two different disciplines and theoretical foundations. The additions to Denison's original table offered by Payne (italics) reflect the different perceptual approaches of culture and climate.

Denison (1996:639) casts light on the theoretical foundation of organizational climate as defined by Lewin (1951). Lewin's thesis is that behaviour is a function of persons in the environment, i.e. B = *f* (P, E) in which B = behavior, E = the environment and P = the person. The Lewinian approach assumes that managers create the organizational climate and employees work in it. The Lewinian approach has been broadly accepted by a number of researchers (Glick, 1985; James & Jones, 1974). However, Schneider (1987:438) has the opposite opinion in that he defines the theoretical foundation of organizational climate differently, by stating that a person acts as an agent in the system and forms it by his/her behaviour, not the other way round. The discussion in Chapter 6 will elaborate how positively deviant behaviours of actors in the SPC may impact on the organizational climate and the creation of positively deviant service businesses.

The literature review conducted by Denison (1996) stresses the importance of using different methodologies when researching culture and climate (table 4). Organizational culture research uses qualitative research methods such as interviews and narratives, whereas organizational climate is studied using quantitative methods such as employee satisfaction surveys. In practice, this difference means that both qualitative and quantitative research methods should be applied to fully understand how culture and climate drive the performance of an organization.

Since Denison and Schneider, novel theories have emerged to support and widen Schneider's approach. The concepts of Systems thinking (Jackson, 2006; Sterman, 2001) and Systems intelligence (Hämäläinen & Saarinen, 2004) recognize bidirectional dynamics between an individual and the system. Individuals are seen as both agents and subjects within the system. The notion of Systems intelligence (SI) describes individuals as actors in human systems whereby he/she understands his/her own influence upon the system as well as the influence the system has upon him/her (Hämäläinen & Saarinen, 2004). The concept of Systems Intelligence provides a potential framework to further analyze the dynamics that create organizational climate.

In this case, organizational culture involves assumptions which shape the organization such as values, beliefs, attitudes and which assumptions shape how individuals create their own perceptions through their psychological climate. Individuals' collective perceptions modify the organizational climate which in turn, impacts on their own behavior through cognitions and emotions and thus

finally, channeling the way people interact and create meaning at work for others as well as for themselves. Experienced meaning unveils behavior, such as organizational learning and shapes the organizational climate, collectively.

Additionally, a relationship is proposed by Kopelman et al. (1990) between organizational climate, cognitive and affective states and performance as presented in Figure 14. In service businesses specifically, the dynamics of these relationships are of great importance for the company, employees and their customers.

The next section reviews the concepts describing the climate for employee well-being construct (Figure 12) as defined in the literature.

3.3.1 Climate for Employee Well-being

The concepts defining the climate for employee well-being construct in the linkage model in Figure 12 can be divided into two groups. These two groups are *team climate* and *support climate* (Gelade et al., 2005). Team climate relates closely to workplace relationships such as openness, respect, teamwork, high morale and atmosphere. Team climate reflects the warmth and friendliness of workgroup cooperation (Gelade et al., 2005:8). Similarly, Schneider et al. (2005:1018) state that certain activities related to service quality performed by the team symbolize the tone, atmosphere or climate in which they operate.

Support climate, in turn, consists of concepts related to managerial and organizational support such as target setting, communication, fairness and management involvement and support for individual development (Bettencourt et al., 1997; Gelade et al., 2005; Ryan et al., 1996; Wiley, 2006). According to Gelade et al. (2005:8), support climate measures how well informed employees feel about their organization and whether they feel they are provided with sufficient information and opportunity to build their careers. Employees also link support climate with good leadership.

Several researchers have listed important attributes that build climate for employee well-being such as openness and involvement (Gelade et al., 2005; Ryan et al., 1996; Schneider et al., 1998b) and respect, teamwork, high morale and atmosphere (Scotti et al., 2007). Paulin, Ferguson, & Bergeron (2006) hypothesize that employees have a dual concern related to climate for employee well-being. In their research, carried out in a health care environment, they found that service employees are simultaneously concerned about their own as well as their customers' well-being. They found that employees' appraisal of co-worker support and fairness is an important originator of both customer-linked job satisfaction and employees' organizational commitment. Further to this they found that service teammates have an important role in sustaining each other's motivation to serve their customers (Paulin et al., 2006). Similarly, Bowen et al. (1999) claim that if companies treat their employees fairly, employees will also treat the customers fairly. They (Bowen et al., 1999) have introduced a "spill over effect" in service businesses by claiming that an organizational climate that emphasizes fairness in the treatment of employees is to be considered as a prerequisite for high service quality and customer satisfaction.

The next construct in the linkage model is the climate for service. Bowen (2008) acknowledges that both service leadership and climate for employee well-being impact on climate for service.

3.3.2 Climate for Service

Several attributes exist in the literature to describe the climate for service construct in the linkage model. Concepts such as internal quality, tools and processes and procedures, work facilitation, knowledge and skills, interdepartmental team services and recognition and rewarding have been used to characterize the climate for service (Gelade et al., 2005; Hallowell et al., 1996; Schneider et al., 1998b). Further to this, several researchers have used different names to explicate these concepts. Gelade et al. (2005) use job enablers, Salanova et al. (2005) use organizational resources, Schneider et al. (1998b) use climate for work facilitation and Hallowell et al. (1996) use internal quality. According to them (Hallowell et al., 1996:23) employees' perceptions of internal quality and climate for service is reflected through those tools, policies and procedures, teamwork, management support and goal alignment existing in the organization. With job enablers Gelade et al. (2005) refer to authority, training and adequate resources to accomplish the work. Salanova et al. (2005, in turn use organizational resources to describe training, autonomy and technology. Hallowell et al. (1996) claim that effective training, communication and rewarding and recognition are important in order to achieve superior customer service. Furthermore, Schneider et al. (1998b) define climate for service as an outcome of work facilitation, interdepartmental service, global service climate, customer orientation, managerial practices and customer feedback.

> Climate for service refers to employee perceptions of the practices, procedures, and behaviours that get rewarded, supported, and expected with regard to customer service and customer service quality. For example, to the extent that employees perceive that they are rewarded for delivering quality service, their organization's service climate will be stronger. Additionally, perceptions that customer service is important to management will also contribute to a strong service climate. (Schneider et al., 1998b:151)

All the above researchers provide a list of similar types of attributes that define the concepts in the climate for service construct. However, the role of leadership is fundamental in providing the means and tools for employees to strive for higher service quality.

The next section conceptualizes the following construct in the linkage model in Figure 12: employee displayed attitudes and behaviors.

3.4 Employee Displayed Attitudes and Behaviors

Several authors have verified that employee attitudes and behaviors impact on customer satisfaction in service businesses (Dean, 2004b; Gelade et al., 2005; Patterson, Warr, & West, 2004; Payne & Webber, 2006). Additionally, job satisfaction (Homburg & Stock, 2005; Tornow et al., 1991), employee organizational commitment (Bettencourt et al., 1997; Cropanzano et al., 2007) and work engagement (Macey et al., 2006) have been reported as impacting on customer satisfaction. Bowen (2008) claims that employee organizational citizenship behavior (OCB) predicts customer perceptions of service quality.

Organ et al. (2006:112) describe OCB with attributes like altruism, sportsmanship, civic virtue, courtesy and consciousness of one's own behavior. OCB is regarded as having a specific target, such as co-worker, team or customer (Macey et al., 2006:62). According to Gonzalez and Garazo (2006) OCB is a behavioral choice that employees make based on their motivation and attitudes. Several researchers include helping others (George, 1998; Organ et al., 2006) and organizational loyalty (Gonzalez et al., 2006) in OCB. Podsakoff et al. (2000:517) portray organizational loyalty as behaviors that promote the organization to outsiders and protect and defend it against external threats. They claim that loyal employees remain committed even under difficult conditions. Organ et al. (2006) emphasize that leadership behavior, task characteristics and perceived team support are the key antecedents of OCB.

Moreover, Organ et al. (2006) claim that organizational citizenship behaviors predict organizational performance. However, they (Organ et al., 2006:216) argue that the mechanism explaining how organizational citizenship behavior impacts on a unit performance reguries further research. They raise questions such as do the OCBs influence co-workers directly by reducing the need for resources in maintenance functions or indirectly by enhancing the productivity of co-workers and managers. OCB has been described as being a key element in making the employee–customer interaction flourish with a positive organizational outcome (Koys, 2001). In a service context, OCB reflects employees' intentions to achieve high service quality that exceeds customers' expectations (Bettencourt, 2001; Koys, 2001; Yen et al., 2004; Yoon et al., 2003). Employees do not only engage in role-defined behaviors toward customers but also in behaviors that go above and beyond the call of duty in order to promote the highest levels of customer satisfaction (Schneider et al., 2005:1019).

Work engagement, being the outcome of specific employee behaviors and attitudes, has been reported as having an impact on customer satisfaction and loyalty. Considerable research and theories exist to justify considering engagement as a separate and unique concept from job satisfaction, organizational commitment and OCB (Albrecht, 2010; Bakker & Schaufelf, 2008a; Macey et al., 2009). Several authors have contributed to defining what engagement really is. Albrecht (2010:4) proposes that the existing definitions of engagement reflect two kinds of qualities (i) a positive and work-related motivational state and (ii) a genuine eagerness to contribute to a work role and organizational success. The definition of engagement provided by Schaufeli et al. (2002) is well-known

> positive, fulfilling, work related state of mind that is characterized by vigor, dedication, and absorption (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002:74).

Vigor reflects a high level of energy and resilience, willingness and persistence to achieve expected goals. Dedication is characterized by behaviors such as, enthusiasm, inspiration, pride and a sense of significance. Absorption is related to being fully concentrated, happy and with a feeling of flow (Salanova et al., 2005:1218). People in a flow are likely to feel strong, active, creative, concentrated and motivated (Csikszentmihalyi, 1990:158). Recently published research by Macey et al. (2009) provides evidence of the role of employee engagement in

building firms' profitability and shareholder value. Macey et al. (2009) define employee engagement as

> an individual's sense of purpose and focused energy, evident to others in the display of personal initiative, adaptability, effort, and persistence directed toward organizational goals (Macey et al., 2009:7).

Several researchers have suggested different attributes as the antecedents of work engagement such as positive organizational behaviors (Schneider, Macey, Barbera, & Young, 2010b), job resources (Bakker & Demerouti, 2007), personal resources (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007) and recovery after the workday (Sonnentag, Mojza, Binnewies, & Scholl, 2008). Schneider et al. (2010b:169) present a model in which a cycle of *positive organizational behaviors* yields engagement feelings and behavior among employees, this in turn enhances employees' positive organizational behaviors towards peers and supervisors who reflect fairness that further creates trust and safety among them and provides a feeling of behavioral engagement. Schneider et al. (2010) describe these positive organizational behaviors with attributes like benevolence, capability and integrity.

Several studies have revealed that job resources, such as support from colleagues and supervisors, performance feedback, skill variety, autonomy and learning opportunities are positively connected with work engagement and experience of flow (Bakker et al., 2008a; Salanova, Bakker, & Llorens, 2006; Schaufeli et al., 2007). Further to this, job resources predict work engagement and function as means of achieving the goals and as a catalyst for personal growth, learning and development (Demerouti, Nachreiner, Bakker, & Schaufeli, 2001). According to Demerouti et al. (2001:501) *job resources* are those physical, psychological, social or organizational characteristics of a job that provide support in coping with job demand and in that way reduce strain and the associated physiological and psychological costs and stimulate social growth and development. According to Bakker et al.(2003:395) job resources impact on employees' motivation at work and make it meaningful. Furthermore, employees take responsibility for their work processes and outcomes as they are provided with information about the achievements of their work performance. *Personal resources* refers to behaviors such as, optimism, self-efficacy and organizational-based self-esteem (Bakker, Schaufeli, Leiter, & Taris, 2008b; Xanthopoulou et al., 2007). Additionally, Sonnentag et al. (2008) found a positive relationship between work engagement and recovery after the workday.

Kahn (1992) provides a different concept for engagement and he defines it as personal engagement. According to Kahn (1992) personal engagement is an outcome of being present and authentic.

> Personal engagement as the harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances.(Kahn, 1990:694)[9]

9 In the operationalization phase (section 5.2) one of the factors in the employee data is named based on this definition.

Kahn (1992) characterizes psychological presence as the experiential state that conveys personally engaging behaviors and he claims that when psychologically present, organization members are able to place themselves fully into their task performances. Kahn has studied whether people are present or absent during task performance and he conducted his studies in organizations where interactions are constant, emotionally charged and psychologically complex. Based on the results he defined the psychological presence at work as a state of mind and body which channels individual behavioral meanings to other people. He (Kahn, 1992:322) lists four dimensions of psychological presence: attentiveness, connection, integration and focus. He argues that these dimensions describe what it means for people to be alive in their fullest sense and accessible in the given work roles. A psychologically present person contributes ideas and effort to work (personal accessibility), is open and empathic with others and focuses on personal growth and learning. Furthermore, Kahn identifies several long-term implications of psychological presence e.g. people who are present and authentic in their roles help to create shared understandings of their systems that are equally authentic and responsive to change and growth.

The research Salanova et al. (2005:1223) conducted in the hotel and restaurant environment, showed that employee engagement mediated the relationship between organizational resources such as job autonomy, organizational training and technology and the service climate. Additionally, their study verified that employees' performance as perceived by customers mediated the relationship between the service climate and customer loyalty.

In addition, a large number of studies (Hartline, Maxham Iii, & McKee, 2000; Parasuraman, Berry, & Zeithaml, 1991) show that customers often base their interpretation of the firm largely on the service received from the customer contact employees. Thus employee engagement is an important concept to be included in the employee displayed attitudes and behaviors construct in the linkage model shown in Figure 12.The next section describes in more detail the literature related to customers' perceptions and attitudes in services.

3.5 Customer Perceptions and Attitudes

The customer perceptions and attitudes construct in the linkage model in Figure 12 consists of customers' perceptions of service quality, satisfaction and customer perceived value. The first studies on customer satisfaction took place in the 1980's and they focused on measuring customers' perceived service quality using customers' experiences of the salespersons' behavioral characteristics in banks (Schneider et al., 1980). Later on, Parasuraman et al. (1988) proposed that a distinction should be made between customer satisfaction and customer perceived service quality. They suggested that customer perceived service quality is related to attitudes that evolve from relative affective orientation and is built through products or processes whereas customer satisfaction is linked to a specific transaction. Therefore they (Parasuraman et al., 1988:23) introduced five dimensions that they considered to be important when assessing customer perceptions of service quality. These dimensions are: tangibles, reliability, responsiveness, assurance and empathy that measure customer perceptions and attitudes. Their multiple item scale, also called SERVQUAL, is presented in Table 5.

Table 5. Scale for measuring customer perceptions of service quality (Parasuraman et al., 1988:2

Tangibles	Reliability	Responsiveness	Assurance	Empathy
Physical facilities, equipment and appearance of personnel	Ability to perform the promised service dependably and accurately	Willingness to help customers And provide prompt service	Knowledge and courtesy of employees and their ability to inspire trust and confidence	Caring, individualized attention the firm provides its customers

The SERVQUAL scale for measuring customer perceptions of service quality is based on studies of banks, credit card companies and other retail business customers (Parasuraman et al. 1998). In addition to this, several authors has supplemented the customer quality dimensions shown in Table 5 (Garvin, 1984; Grönroos, 1984; Holmlund et al., 1995).

Grönroos studied customers' expectations and perceptions of the service delivery process (1984, 1990) and included two dimensions to define service quality: technical quality (what the customer actually receives) and functional quality (how the customer receives that service). Grönroos (2007b:76-77) provides a much wider view of customers' perceived quality. He claims that service quality is a subjective customer experience. According to Grönroos (2007b) customers compare the quality they expect with the quality they have experienced and the better the expectation and experience are met, the higher the customer total perceived quality is. This, in turn, impacts on the customers' subjective image of the company. Grönroos (2007b) broadens the paradigm by stating that to become a service business company's strategic goal and management prioritization should focus on generating value with the customers. Additionally, he continues by suggesting that in order to adopt a service perspective, a company's strategy ought to focus on the creation of a total service offering. This total service offering can consist of combining product and service components, information, personal attention and other elements of the customer relationship (Grönroos, 2007b:7). Holmlund and Kock (1995) built on Grönroos's scale of technical quality and functional quality by adding economic service quality. They studied how the service quality perceived by the customer and the relationship building impacted on the profitability of the supplier in the industrial market. Their interview data showed that honesty, mutuality, discretion, openness, ambition, realism, empathy, humbleness, seriousness, professional skills, pride and communication skills were crucial in the choice of a service supplier (Holmlund et al., 1995:118).

According to Garvin (1984) the often asked question related to service quality is whether quality is objective or subjective. He claims that both exist and are important. According to him, customers have subjective views of what constitutes acceptable professional behavior and lists eight service quality criteria: performance, features, reliability, conformance, durability, serviceability, aesthetics and perceived quality (Garvin, 1984:30).

Several researchers suggest that employee attitudes and emotions are a vital element in creating customers' perceptions of service quality (Guenzi & Pelloni, 2004; Wei-Chi & Yin-Mei, 2002).

In addition to this, Hansen et al. (1999) found that the characteristics of a salesperson are one of the most important variables defining customers' perceptions of service quality. They conducted a study including 2040 companies

of industrial consumers of softwood lumber in the US. Their (Hansen et al., 1999:126) research showed that the most important criteria to becoming the preferred supplier were salesperson characteristics and product characteristics. The top five salesperson characteristics were:

1. Friendliness of suppliers' salesperson
2. Suppliers salesperson giving individualized attention
3. Ease of understanding suppliers salesperson
4. Supplier understanding your needs
5. Being treated with respect by supplier's salespeople

Similarly, Homburg and Stock (2005) identified circumstances in which a salesperson's work satisfaction has an impact on customer satisfaction in a B-to-B environment. They found that this relationship was positively moderated by salespersons' empathy, expertise and reliability. Additionally, they found evidence that customers' trust in a supplier moderated positively, while their price consciousness moderated negatively (Homburg & Stock, 2005:411). Homburg and Stock (2004) obtained that the relationship between salespersons' work satisfaction and customer satisfaction was found to be particularly strong in three circumstances: when the frequency of customer interaction was high, the intensity of customer integration into the value-creating process was high and when a company demonstrated high product/service innovativeness.

To summarize, several dimensions exist in SPC literature which evaluate customers' perceptions of service quality: technical and functional (Grönroos, 1984), economic (Holmlund et al., 1995) tangibles, reliability, responsiveness, assurance and empathy (Parasuraman et al., 1988) and performance, features, conformance, durability, serviceability, aesthetics and perceived quality (Garvin, 1984). However, customers seem to assess service quality based on their impressions of the firm largely on the service received from the customer contact employees (Hartline et al., 2000; Holmlund et al., 1995; Parasuraman et al., 1991).

The last construct in the linkage model in Figure 12, organizational outcomes, is conceptualized in the following section.

3.6 Organizational Outcomes

In the linkage model, in Figure 12, customer satisfaction and perceptions of service quality are the antecedents of organizational outcomes, such as growth and profit. Existing literature provides strong evidence that customer perceptions of service quality have a positive relationship with organizational outcomes, such as sales, profitability, customer loyalty and retention (Anderson, Fornell, & Lehmann, 1994; Bernhardt, Donthu, & Kennett, 2000; Harter et al., 2002; Rust & Zaborik, 1993). Additionally, Grönroos and Ojasalo (2004) suggest that productivity is a potential outcome of the customer relationship by claiming that at its best a supplier customer relationship is a mutual learning process which increases both internal and external efficiency, resulting in higher service productivity. Similar suggestions have been reported by Gummesson (1998).

Research on customer loyalty links customer quality perceptions and company profitability. The evolution of loyalty research has brought about several

characteristics that explain why customers want to remain loyal (Bhote, 1996; Bontis, Booker, & Serenko, 2007; Oliver, 1999; Yieh, Chiao, & Chiu, 2007; Zeithaml, Berry, & Parasuraman, 1996). Oliver define loyalty as:

> ... a deeply held commitment to rebuy or repatronise a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior (Oliver, 1999:34).

Bhote (1996) presents an additional view on customer loyalty:

> Customer loyalty means that customers are delighted with a company's product or service that they become enthusiastic word-of-mouth advertisers (Bhote, 1996:31)

Bhote (1996) defines four stages with ten characteristics that could enable companies to reach a world-class level. By world class level he means the most favorable level a company can reach to ensure the creation of loyalty among customers. In Table 6 Bhote (1996) categorizes suppliers into four evolutionary stages: innocent, awakened, progressive and world-class.

Table 6. The four stages in the evolution of customer loyalty (Bhote, 1996:4).

Characteristics	Stage 1: Innocent	Stage 1: Awakened	Stage 1: Progressive	Stage 4: World-Class
1. Scope	Inward Preoccupation	Cost reduction Driven	Competition driven	Adding value to the customer
2. Focus	Commodity	Technology / Quality	Customer satisfaction	Customer Loyalty
3. Customer segmentation	No Differentiation	Elimination of "dog" customers	Internal customer and company stakeholders	Core customers
4. Management	Bureaucratic, Dictatorial	Micro-management	Coach	Vision, inspiration, leadership
5. Organization	Vertical management	Matrix management	Delayering; flat pyramid	Cross-functional teams: CCO
6. Goals	Fighting "forest fires"	Making the budget	Meeting customer expectations	Delighting customers
7. Customer Requirements	Determined by management/ Engineering	Determined by market research	Determined by conjoint analyses, other techniques	Determined by QFD (Quality function deployment)
8. Customer measurements	Maximize sales, profits	Minimize complaints	Maximize market share	Maximize retention
9. Analyses of feedback	Little or no follow-up	Survey instruments never changed	Customer satisfaction index (CSI)	Former and non-customers analyzed
10. Improvement tools	Seven tools of QC	Brainstorming and statistical tools	Creative tools: VE and force field analyses	Business process reengineering

In Table 6 each of the evolutionary stages is viewed using ten characteristics. A world-class company has a *scope* on adding value to the customer and *focuses* on customer loyalty and *core customers*. A world-class company's *management* is inspirational, having a vision and the *organization* is built on cross-functional teams. The *goal* is to delight customers by providing high service quality. A *customer quality* process is implemented, followed by *measurements* with the target of maximizing retention. In addition, *customer feedback* is measured using feedback from existing, former and non-existing customers. Further to this a world-class supplier is continuously *reengineering its business processes*. Bhote (1996) extends the loyalty not only to that of a product or service, but also to the whole portfolio of the company's products and services for the better part of their lifetime – in short, brand loyalty forever.

Allen and Wilburn (2002) have provided a picture (figure 15) of the antecedents of customer retention. In Figure 15 they present their view of how brand image, service quality issues, product quality issues, price perception, customer satisfaction, value, affective and cognitive loyalty act as antecedents of customer retention.

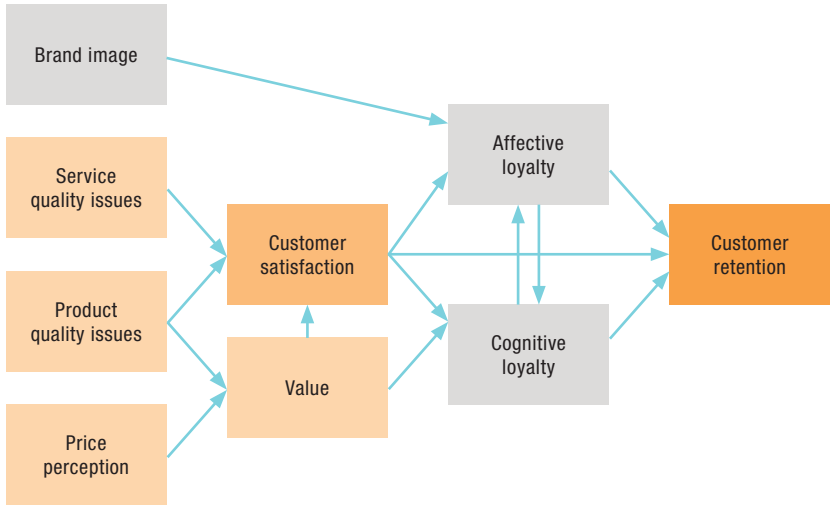

Figure 15. Antecedents of customer retention (Allen et al., 2002:13).

As shown in Figure 15, Allen and Wilburn (2002) claim that customer loyalty has two facets, a cognitive (rational) and an affective (emotional). Cognitive loyalty is an outcome of customer satisfaction and customer perceived value, which in turn, are reflections of customers' perceptions of product and service quality and price. The affective dimension of loyalty has its foundation in emotional processes and engages human interaction (Allen et al., 2002:11). Chen et al. (2007) have crystallized the affective part of loyalty as customers' perceptions of the reliability and trust regarding suppliers' capability to deliver their promise.

> As a customer-oriented concept, brand image reflects the customer's perspective what he/she receives from brand and relies on his/her experience with it. Therefore, positive interactions between the business and customer can promote positive experiences and in still positive feelings and trust in the customer. (Chen & Ching, 2007:1532)

To summarize this chapter, it may be of interest to review the research results of the existing linkage research. Most of the studies that have examined the existence of the linkages in the service profit chain have been conducted in a B-to-C context, such as banks, restaurants, hotels and retail stores. Schneider and his co- researchers (Schneider et al., 1985; Schneider et al., 1980) were the first to examine the links between employees' perceptions of their organization and customers' perceptions of service quality in banks. Anderson, Fornell and Lehmann (1994) found statistical evidence of the linkages between customer satisfaction, market share and profitability in a B-to-C context. Ryan, Schmit and Johnson (1996) found that employee satisfaction predicted productivity and customer satisfaction in B-to-C financial services. Similarly, the study in a B-to-C insurance companies by Hallowell, Schlesinger and Zornitsky (1996) showed that employees' perceptions of internal service quality (tools, processes, management support and team work) predicted their service capability and finally impacted on customers' perceptions of service quality. Several studies exist in B-to-C context that have examined and verified the existence of the linkages in the entire service profit chain (Chi et al., 2009; Gelade et al., 2005; Heskett et al., 1997; Pritchard et al., 2005; Rucci et al., 1998; Schneider et al., 2005; Schneider et al., 1998b; Silvestro et al., 2000). However, each of these studies have applied different measurement items and research hypothesis to verity the linkages of the key elements in the SPC. Some of the studies have examined the reciprocal impacts in the SPC. Salanova et al. (2005) found evidence that customer loyalty has an impact on service climate and Ryan et al. (1996) could exhibit in their longitudinal study that customer satisfaction directed employee attitudes, rather than the other way round. However, their (Ryan et al., 1996) conclusions were that improved economic conditions resulting from satisfied customers, impacted on employee satisfaction.

Interestingly, only a few studies exist that have studied the SPC in the B-to-B context with limited scope. Theoharakis, Sajtos and Hooley (2009) analysed how chief marketing mangers' of US based B-to-B organizations perceived their own company and its capability to create employee satisfaction and customer performance in comparison to the competitors. Their research data did not however include employee or customer data and thus was not examining employee and customer perceptions in B-to-B context.

4 Methodology

This chapter describes the chosen methodological approaches employed to examine the linkages between employee and customer perceptions in service businesses using relevant literature references. The results of the theory testing and related analysis are presented in Chapter 5.

This thesis consists of two types of methodology, a conceptualization of the linkage model presented in Figure 2 and a methodology to test linkages between employees' perceptions of their organization and customers' perceptions of the quality provided by the employees. The first methodology, conceptualization of the linkage model was presented in Chapter 3. This chapter in turn, describes the empirical methodology created for this thesis. The empirical methodology of this thesis describes how the research data was analyzed and prepared for the examination of the linkage model in Chapter 5. Additionally, in Appendix4, a detailed description is provided of concerning how the survey data was transferred into research data

The survey data of this thesis was provided by a global company, consisting of responses from subsidiaries in specific countries. However, the employee and customer satisfaction questionnaires were not designed for this thesis, but conducted by external research institutes. For this reason the researcher could not retrospectively influence the formulation of the measurement items. The description of the survey data will be presented in Section 5.1.1.

In order to identify and determine correspondence between the empirical data and concepts describing the linkage model an operationalization process had to be designed.

Operationalization

The aim of the operationalization process is to ensure the correspondence between theoretical concepts and the measurement items used (Cronbach & Meehl, 1968). This process is vital for the construct validity of this thesis. In this case, the construct validity criteria are based on the postulations made during the research process. Firstly, in the conceptualization phase, in which the concepts reflecting a specific construct in the linkage model in Figure 2 were described. Secondly, in the theoretical comparison phase, in which the measurement items in the research data were compared to measurement items used in existing studies.

Thus a bridge is built between the research data and the linkage model using existing SPC and linkage literature as the connector with regard to the operationalization.

Figure 16 illustrates the sequence of the five steps necessary for the operationalization process conducted in this study. According to Ketokivi (2009:29)[10] the operationalization process translates theoretical concepts into empirical data language .

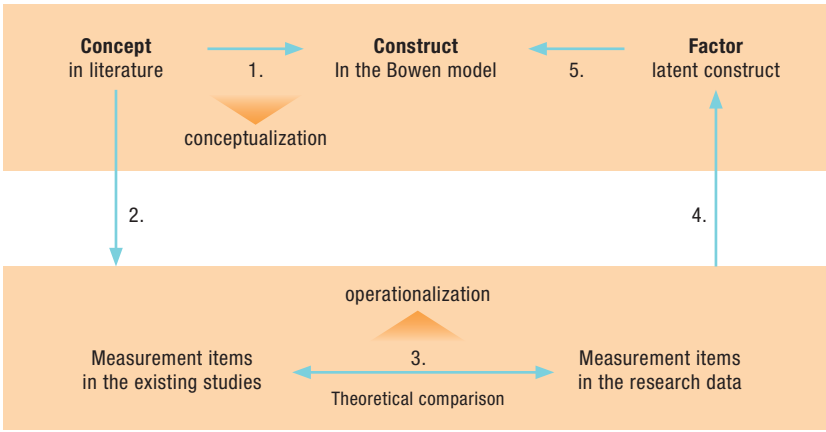

Figure 16. Steps to operationalize the variables in this study

The first step, conceptualization, compared the concepts in the literature with the constructs in the linkage model as presented in Chapter 3. However, it was not considered sufficient to merely match the empirical data with the concepts as defined in the service profit chain literature. For the sake of the validity of the study, the link between existing theories and the research data was considered especially critical. Therefore, some additional steps were conducted. In step two, as illustrated in Figure 16, the literature was scrutinized in detail, specifically to identify which measurement items had been used to study a specific concept in the existing literature. In the third step, eleven studies were chosen which provided measurement items that had been used in the testing of the linkages in the SPC. These measurement items were then compared to the measurement items in the research data. This third step, the operationalization process, is presented in Section 5.2, was conducted in order to build a solid theoretical link between research data and the existing linkage model. The result of the third step was a summary of the measurement item level mapping between the literature and the research data. In the fourth step the definitions used in the SPC literature were used to rename the factors in the research data. The final, fifth step, consisted of positioning the factors in the research data to the corresponding construct in the linkage model according to the conceptualization and the operationalization process. The target of these five steps was to validate that the testing of the linkage model using empirical data indeed corresponds with the conceptual and

10 In the Finnish original: kun taas teoreettinen käsite täytyy kääntää havaintojen kielelle eli operationalisoida.

theoretical thinking of SPC. However, a unique model was created to test the linkages between employee and customer perceptions. This model is presented in Figure 20 in Chapter 5. In addition, a detailed description and results of the operationalization process are presented in Section 5.2.

The next section provides a description of the explorative factor analysis (EFA).

4.1 Explorative Factor Analysis (EFA)

When utilizing existing survey data some preliminary data examinations, such as missing value analysis (MVA) and explorative factor analysis (EFA) are a necessity. Additionally, other data examination techniques and concepts, such as normality assumptions, should be omitted.

Missing Data Analyses

Some critical examinations of the sample data needs to be made. The sample data may not represent the population for several reasons. For example, some parts of the population might have been neglected during the data gathering. Moreover, the data gathering process may have introduced a bias in the data where, for example, some respondent groups within the population refused to answer certain questions. Furthermore, some missing values may decrease the sample size if it were the case that these values were omitted. This is a methodological problem.

When considering missing data analyses, the following three questions should be examined:

1. Do variables within the data sample have so many missing values that they should be deleted?
2. Is the missing data completely random (MCAR) within the data or do the missing values concentrate systematically on some questions or respondent groups?
3. What methods can be used to input the missing values?

The Hair et al. (2006) recommendation to analyze the missing data was adopted in this thesis. To answer the first question, Hair recommends (2006:56) that any missing data that represents more than 30 percent should be removed. According to Hair (2006) the deletion of a single variable is justified, if by deletion, the amount of complete data increases significantly. Moreover, he continues, the suitability of deletion can be increased if other, highly correlated variables exist within the data sample. That is, the highly correlated variables are assumed to measure the same underlying concept.

To answer the second question, analysis was carried out to find out whether missing values were systematically or totally randomly spread. Little's MCAR test was carried out to test it (Little, 1988). The third question regarding how to choose the right input method depends on how the missing values have been spread within the research data. In this study, maximum likelihood estimation techniques were used for data with non-random missing values. Where missing values are completely spread in the data, a regression based estimation for inputting could be used (Hair, 2006:56).

Explorative factor analysis (EFA)

Exploratory factor analysis (EFA) has been used to better understand the structure of the data by grouping measurement items into homogenous groups called factors. Grouping is based on their correlations. Depending on the type of research, different factor estimation and rotation methods can be used. Factor estimation, sometimes called extraction, refers to the technique that identifies the latent constructs shared by the variables. The estimation technique works in such a way that the first factor estimated contains most of the variables within the data. Each subsequent factor then has smaller numbers of variables associated with it. This is undesirable, as it makes the supposition harder to interpret. Thus, during factor rotation, the estimated solution is rotated so that the measurement item loading into factors are spread more evenly among the factors within the resolution in order to help the interpretation of the factors, as recommended by Hair (2006:56-60).

EFA can be used on any ordinal scale data, such as the data used in this study. The basic requirement is that the variables within the data are correlated. Hair et al. (2006) suggest that a significant amount of correlations over .3 between the variables supports the view that the data structure can be examined with the use of EFA (Hair, 2006:115-119).

When the research is based on existing data, as is the case in this study, the operationalization of the concepts can be supported by exploring the structure of the data sample with exploratory factor analysis (EFA). After the exploration, the chosen structure can then be evaluated by using confirmatory factor analysis (CFA) (Magnusson, 1991). However, no factor solution is unique and thus the evaluation between different solutions has to be done on some other criteria. In this case the evaluation was supported by literature.

Estimation and Rotation Methods

The choice of estimation methods is carried out according to data characteristics. Costello and Osborne suggest that principal axis factoring should be used when data is not normally distributed (2005:2), as is the case in this study.

Two main types of rotation methods exist: the orthogonal rotation methods should be used when factors are theoretically assumed to be uncorrelated and oblique rotation methods when they are assumed to be correlated. Orthogonal rotation methods, such as Varimax and Quartimax, provide a set of uncorrelated factors, whereas the oblique rotation methods, such as Promax and Oblimin, provide correlated factors (Hair, 2006;126-127). The Promax rotation method was chosen in this study based on the theoretical assumption that factors are correlated.

Validation of the Statistical Requirements

Several measurements exist to validate the statistical requirements. Kaiser-Meyer-Olkin (KMO) is a commonly used measurement to evaluate the strength of the intercorrelations among the data i.e. degree of common variance.[11]

11 Common variance is a variance shared with other variables in the factor analysis (Hair, 2006:102).

Table 7. Guidelines for interpreting KMO measure (Sharma, 1996:116).

KMO measure recommendations
≥ .90 Marvelous
≥ .80+Meritorious
≥ .70+Middling
≥ .60+Mediocre
≥ .50+Miserable
below .40 Unacceptable

Sharma (1996) provides guidelines for interpreting KMO measure as shown in Table 7.

Additionally, Cronbach's Alpha is a widely used measure of internal reliability consistency of the entire scale. Hair (2006:137) recommends 0.70 as the lowest acceptable level of Cronbach's Alpha. Both of the reliability measurements proposed in this section are used in this study and presented in Chapter 5.

4.2 Confirmatory Factor Analysis (CFA)

Whereas explorative factor analysis (EFA) is used to explore the latent structures (i.e. factors) in the sample data, the objective of confirmatory factor analysis (CFA) is to validate the existence of the latent constructs within the sample data. This objective is pursued by testing the overall factor model fit through confirmatory factor analysis (CFA) and by estimating the within-group homogeneity of teams with inter-rater agreement (IRA) and reliability (IRR) indices (see section 4.3).

Unlike exploratory factor analysis (EFA), where the factor structure was examined by running EFA on a sample data, CFA requires the researcher to define to which factor each variable belongs. After the relationships have been defined CFA evaluates whether the observed covariance among variables represents the specified structure. The use of EFA is guided in theory by choosing a factor solution wherein each factor has a meaningful theoretical interpretation. In contrast, the use of CFA is completely theory-guided and usually used to test hypotheses made prior to data collection and examine how the latent variables relate to the factors (Hair, 2006:113). In this study however, the existing data was first explored with EFA and then the chosen solution, linkage model in this case, and its fit is tested using CFA.

Model Fit

The quality of factor solution can be based on two indices: root mean square error of approximation (RMSEA) and comparative fit index (CFI). RMSEA is a "badness of fit" index, in the sense that it represents the average of unexplained covariances, The strength of using RMSEA is its comparability across different studies and sample data. Hair et al. (2006) provide an interpretation guideline of different combinations of RMSEA and CFI indices. The interpretation depends on the model complexity, measured as the number of variables within the model and the sample size used. The model fit can be interpreted as acceptable if RMSEA is below .07 and CFI is above >.92 (Hair, 2006:116-117).

4.3 Level of Analysis

Climate researchers have explored climate at the organizational level, corresponding to aggregated individual perceptions of organizational events and practices (James & Jones, 1974). Simons et al. (2003:434) advise climate researchers to focus on collective meanings that people attach to particular characteristics of the organization, rather than focusing on individual psychological representations of work situations. One potential problem of using a unit level of analysis has been the limited number of business units impacting on the statistical power (Harter et al., 2002:268). The modeling of the relationship between constructs can be undertaken by aggregating multi-item measurements (Klein & Kozlowski, 2000).

Klein et al. (2000) and LeBreton et al. (2008) have studied relationships between individual level findings and higher organizational level findings. Klein categorized different organizational levels through their properties; global team, shared team and configural team properties.

According to Klein et al. (2000:215) *global team* properties do not originate in or emerge from the characteristics of individual team members, but are likely to remain the same, even if all members of a team, such as customer service, leave the company. The function of the team, e.g., customer service, will still remain within the company. Thus, global team properties have existence apart from the member characteristics or social psychological processes of individuals. Furthermore, Klein et al. (2000) characterize the properties of a *shared team* as the properties originating through experiences, attitudes, perceptions, values, cognitions, or behaviors that are held in common by the members of a team. Examples of shared team properties include team cohesion, team norms, team climate and team mental models. However, Klein et al. (2000) challenge whether a leader is likely to treat his or her subordinates in a similar and consistent fashion, causing subordinates to describe their leader in similar terms (Klein et al., 2000:215). Klein et al. (2000) claim that team performance is a *configural team* property when it emerges from the complex cluster of individual team members' performances. Team performance may reflect the sum of individual team members' contributions, e.g., the better each individual performs the better is the total team performance (Klein et al., 2000:217).

This thesis applies Klein et al.'s description of shared team properties as the justification for the aggregation. Shared team properties, such as climate, are most often studied on a coIn this study, the data was collected on an individual level and the analysis is conducted with aggregated data on business unit level. In addition to this, individual employee level data was used to examine and validate the linkages within employee data as described in the linkage model. The justification for aggregation of the research data is explained and examined in Section 5.1.3.

In the next section, descriptions and recommendations of the aggregation justification indices are provided.

Justifying Aggregation

The examination of the linkages between employee and customer perceptions is done in this study using aggregated business unit level data. The reason is that the correspondence between employee and customer research data can only be

defined on a business unit and company level. Thus, special attention is placed on justifying the aggregation of individual level employee and customer data to the company/business unit level.

The aggregation justification is based on the interpretation of three indices: R_{wg}, ICC(1) and ICC(K) that present inter-rater agreement (IRA) and inter-rater reliability (IRR) (LeBreton et al., 2008). The three indices can be interpreted as follows; R_{wg} represents how strongly respondents agree on a given measure with those within the same group. ICC(1) represents the effect size, that is, the amount of variance within a construct that is explained by the membership of a given group. ICC(K), which is also known as ICC(2), is used to estimate the reliability of the mean ratings for groups of respondents.

Guidelines for the interpretation of these indices: James (1984) recommends a cut-off value .12 for ICC(1), whereas Click (1985) recommends a cut-off value .60 for ICC(K). Additionally, LeBreton's (2008) recommendations for IRA, R_{wg}, is shown in Table 8.

Table 8. Revised standards for interpreting inter-rater agreement (IRA) estimates (LeBreton et al., 2008:83

Level of IRA (R_{wg})	Substantive Interpretation
.00 to .30	Lack of agreement
.31 to .50	Weak agreement
.52 to .70	Moderate agreement
.71 to .90	Strong agreement
.91 to 1.00	Very strong agreement

These three indices, ICC(1), ICC(K), R_{wg} and their recommended cut-off values have guided the aggregation justification of the research data in this study. When comparing the aggregation justification techniques, it is important to remember that only R_{wg} measures the within-group agreement, which is the most relevant from the organizational climate research point of view (Salanova et al., 2005:1221), as is the case in this study. Aggregation indices are presented in Table 14 for employee data and in table 15 for customer data.

4.4 Statistical Analysis Methods

This section briefly describes the methods used in the prediction of correlations and links between employee and customer perceptions. A comparison of the statistical analysis methods: correlation analysis, regression analysis, path modeling and structural equation modeling (SEM) is provided. The following sections exemplify the differences of applicable statistical analysis methods.

Correlation Analysis

The correlation between two variables reflects the degree to which these two variables are related. In this study, the correlations are calculated using Kendall tau b method. Kendall tau b tests the strength of linear associations between factors and is commonly used in organizational surveys.

Regression, path models and SEM

The relationship between regression analysis, path models and SEM is briefly as follows. The main purpose of using regression analysis is to predict the relationship between independent (i.e. endogenous in SEM terminology) and dependent (i.e. exogenous in SEM terminology) variables by explaining the variance within dependent variables as far as possible. A basic regression model can be designed with path models, with continuous dependent variables. Path models are regression models in which one or more variables are both endogenous and exogenous, as is the case in this study. Further to this, the objective of SEM is to explain how well independent variables explain the variance within dependent variable (Maruyama, 1997:36-38).

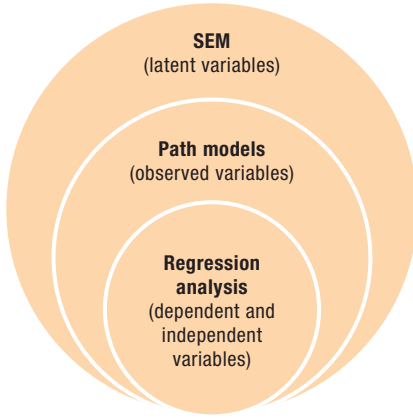

Figure 17. Illustration of the comparison between regression analysis, path models and SEM.

As can be seen in Figure 17, SEM is an enlargement of regression analysis. SEM analysis uses latent variables (measurement items) in the prediction. In this study, SEM is used to test the fit between observations and theory (CFA).[12] Path modeling, a specific type of SEM model, is used to evaluate the relationships between factors (observed variables) in the linkage model.

Multiple analysis methods were chosen to verify the research results. Firstly, correlation analysis was conducted to verify both intercorrelations within the same data and bivariate correlations across the data. Secondly, both structural equation modeling (SEM) and path modeling were used to verify the links in the linkage model. SEM was first used to test the internal links of the model (CFA), after a successful estimation, customer quality factors were added to the model. However, after several analyses, the results were found to be unstable due to the low quantity of sample data. The low size of the sample is due to the aggregation of the individual survey data on a company level, as justified and described in Section 4.3. Thus the final examination of the linkages between employee perceptions of their organization and customer perceptions of service quality were analyzed using path modeling with observed variables (factors). The SEM analyses were conducted using the SPSS 17.0 / AMOS software and Mlpus application

12 Results of the SEM analysis examining the linkages between employee perceptions of their organization as depicted in the linkage model are presented in Appendixes 9 and 10.

for path modeling. Additional analysis was conducted to verify the path models using general least square estimation see attachment 11.

4.5 Measurement of Reliability and Validity

Assumptions made in factor analysis are both conceptual and statistical. However, the conceptual assumptions are more critical, such as the character and the composition of the variables included in the analysis. A basic assumption within factor analysis is that a fundamental structure exists in the selected set of variables. The sufficiency and relevancy of a factor solution cannot be guaranteed through correlated variables or by subsequent definition of factors. Thus, a researcher has the responsibility of ensuring that observed patterns are conceptually valid and are appropriate for study with factor analysis. The researcher must also ensure that the sample is homogenous and that independent variables are not mixed in a single factor analysis (Hair, 2006:113). *Reliability* measures the consistency in organizational and social research. Reliability estimates the probability of achieving the same result if the analysis is repeated with a different sample when the research measure is the same (Ketokivi, 2009).

To increase reliability, two approaches can be used; either to repeat the analysis, or test internal consistency. Cronbach's alpha is a variance based index that estimates reliability through internal consistency. Cronbach's alpha measures how well a set of items (e.g. measurement items) calculate a single unidimensional latent construct (factor). The closer to 1.0 the index is, the more unidimensional is the latent construct. Cronbach's alpha index is applied in this study and the results are presented in Section 5.9 in Tables 32 and 33.

Equally important, is the validity of the measurement. *Validity* measurements refer to analyses that check the correctness of the perceptions and conclusions made during the research process. Furthermore, validity measures ensure that the perceptions and conclusions describe a specific phenomenon. Ketokivi (2009:54-59) has listed five important and different modes of validation measurements to be considered: *content validity*, *dimensionality*, *convergent validity*, *discriminant validity and nomologival validity*.

The following sections summarize the detailed process of the validity measurements covered in this research.

Content Validity

The most important component of measurement validity lies in the operationalization phase of the research and specifically how well the factors formed through the research data correspond with the concepts as defined in the literature. Content validity is specifically important in a case, such as this study, where existing theory is tested using empirical data not originally designed for this specific purpose.

> Conceptual definition specifies the theoretical basis for the summated scale by defining the concept being represented in terms of applicable to the research context (Hair, 2006:136).

Factor refers to the arithmetic averages of measurement items within a scale. The operationaliz ation process is described in detail in Section 5.2.

Costruct validity

Hair has defined three important ways to assess construct validity (2006:139). *Convergent validity* measures whether the scale correlates with other known measures designed to study similar concepts. According to Ketokivi (2009) high factor loadings represent a high convergent validity (Ketokivi, 2009:67). *Discriminant validity* measures whether the scale is sufficiently different from other related scales. Discriminant validity is especially important when the model measures two correlating factors or when the same questions are examined using more than one measure and the same person has replied to these multiple measures. The verification can be better assessed by measuring whether the model is improved when two constructs are separated, than when they are forced to correlate (Ketokivi, 2009:71-72). The validity of the data for a specific purpose, the testing of the linkage model in this case, is predicted using CFA modeling and the fit is analyzed by RMSEA and CFI indices. *Nomological validity* tests that the scale predicts what has been theoretically suggested. Measurement of nomological validity stresses the importance that a concept cannot be validated separately, but as part of a bigger theoretical framework. Thus the linkage model under examination is created based on the depiction of Bowen (2008) and its conceptualization in Chapter 3.

Furthermore, the quality and validity of the factor solution has been examined by creating an appropriate confirmatory factor analysis (CFA) model and the fit is tested in Section 5.4.1 using observed factor covariance.

Common Method Variance and Bias

A potential validity problem in behavioral research is the common method variance (CMV). Common method variance is attributable to the measurement method rather than to the construct the measurement represents (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003:879). Method refers to the form of measurement, such as ambiguous wording, scale length, social desirability, response format and the general context. Podsakoff et al. (2003:882) has classified such causes of CMV into the following four categories: common rater effects, item characteristics effects, item context effects and measurement context effects. While much of the evidence of response set variance is of the same order, the clear-cut demonstration of the presence of method variance requires several traits and methods. However, high correlations between variables might be explained as being due to either basic trait similarity or to a common method variance (Campbell & Fiske, 1998:85). Harman's single factor test is an often used approach for assessing CMV in a single method research design. First all items in a study are subject to explorative factor analysis (EFA). Then CMV is assumed to exist if (1) a single factor emerges from unrotated factor solutions, or (2) a first factor explains the majority of the variance in the variables (Podsakoff & Organ, 1986:536).

The use of data where the variable in the dependence relationship has been measured at different time as is the case in this study, is an efficient way to control for biases caused by common method variance. Moreover, the potential common method variance can be assessed by applying several analysis methods (Ketokivi, 2000).

Other Potential Validity Areas

Two further potential validity areas are related to the process used to collect the survey data. Firstly, the principle that collecting employee replies in several languages may create a potential perception bias based on the translations from na-

tive languages to English. To minimize this bias, a professional language bureau has been used to revise the translations. Another area for validity bias can arise in the customer survey where the account manager collects half of the customer replies through an interview. This can create potential misinterpretations of customers' replies as perceived by the account managers. Further to this, it could also happen that customers may not be sincere while confronting the account manager i.e. risk of social desirability. Both of these cases can be categorized as a human impact on the measurement validity that can exist in organizational surveys.

Social desirability refers to the need for social approval, which refers to the belief that acceptance can be attained by means of culturally acceptable and appropriate behavior (Podsakoff et al., 2003:881). This shows up as a tendency of an individual to present him/herself in a favorable light, regardless of his/her true feelings on the subject.

Statistical argumentation and theoretical contribution

In quantitative research the statistical argumentation builds the basis for building a theoretical contribution. Whetten (1989) provides a list of questions for researchers to answer when writing statistical argumentation. He encourages the researcher to answer the following four questions:

1. What are the key concepts and their definitions related to the argument?
2. How are concepts related?
3. Why are these concepts related?
4. What is the context in which the presented argument is valid?

Ketokivi (2009) adds one more question to the list: what is the novelty of this argument?

Abelson (1995) presents five criteria to interpret and assess the arguments that build a statistical argumentation. These five criteria, also called MAGIC-criteria, are: Magnitude, Articulation, Generality, Interesting and Credibility. Abelson advises researchers to consider the magnitude of the results of the statistical analysis, not only from the statistical argumentation perspective, but also for theoretical and practical viewpoints. Articulation to build a theoretical contribution must be seen as a combination of statistical argumentation and theoretical interpretation. The generality of the results challenges the researchers to answer whether the results are applicable in any other business context. Does the presented argument increase the interest of the scientific faculty, or does it only strengthen the existing knowledge. The fifth criterion is credibility. Credibility can be achieved by presenting a transparent process of how the argumentation has been built.

The recommendations provided by Whetten (1989), Ketokivi (2009) and Abelson (1995) will be kept in mind while writing the statistical argumentations of this thesis and related documentation of the process of examining the linkages between employee and customer perceptions in a service context.

In the following Chapter 5, the methodological principles presented in this chapter will be executed in the theory testing of the linkage model using empirical survey data. Moreover, Section 5.10 consists of the main results of the theory testing and other contributions and answers to the first research question (RQ1).

5 Testing of the Linkage Model Using Empirical Data

As demonstrated in the methodology section, several phases were needed before the actual testing of the linkage model using the empirical data became possible. The different activities in several phases are presented in Figure 18. The darker boxes illustrate the outcome of a specific analysis phase. These outcomes cover the topics emphasized in the research questions.

Some of the phases shown in Figure 18 were conducted in parallel. The statistical analysis started by *examining the empirical data* and its applicability to this study. Firstly, the two survey data, employee and customer satisfaction surveys were linked together using common nominators such as business unit and company information. In this step the survey data, collected by Wärtsilä, was converted into the research data used for the theory testing (appendix 4). The examination of the empirical data continued by observing basic data characteristics, such as scales, unit levels of analysis, sample sizes, normality and missing value analysis. Explorative factor analysis (EFA) built the structure of the data by grouping variables into homogenous groups, called factors, based on their correlations. The final step in examining the empirical data consisted of the analysis of the aggregation justification of the research data for the business unit level analysis.

The second phase consisted of *conceptualization* and *operationalization*. The conceptualization process identified the concepts in each construct in the linkage model, presented in Figure 2, as described in the SPC literature. The target of the operationalization process was to discover the equivalence between the measurement items in the research data and measurement items used in existing linkage and SPC research. The operationalization process resulted in a measurement item level mapping and naming of the empirical data into factor groups. The third step consisted of *validation of the data* with multiple methods, such as confirmatory factor analysis (CFA) and Cronbach's alpha. In the *analysis phase*, the linkage model, built on factors from the research data, was tested with the empirical data using path modeling. The research results (green boxes in figure 18) are reported with the respective phase of analysis in this chapter. In the following sections each performed activity is explicated in more detail. The last and final phase in the research process, the theory building part, is covered in Chapters 6 and 7.

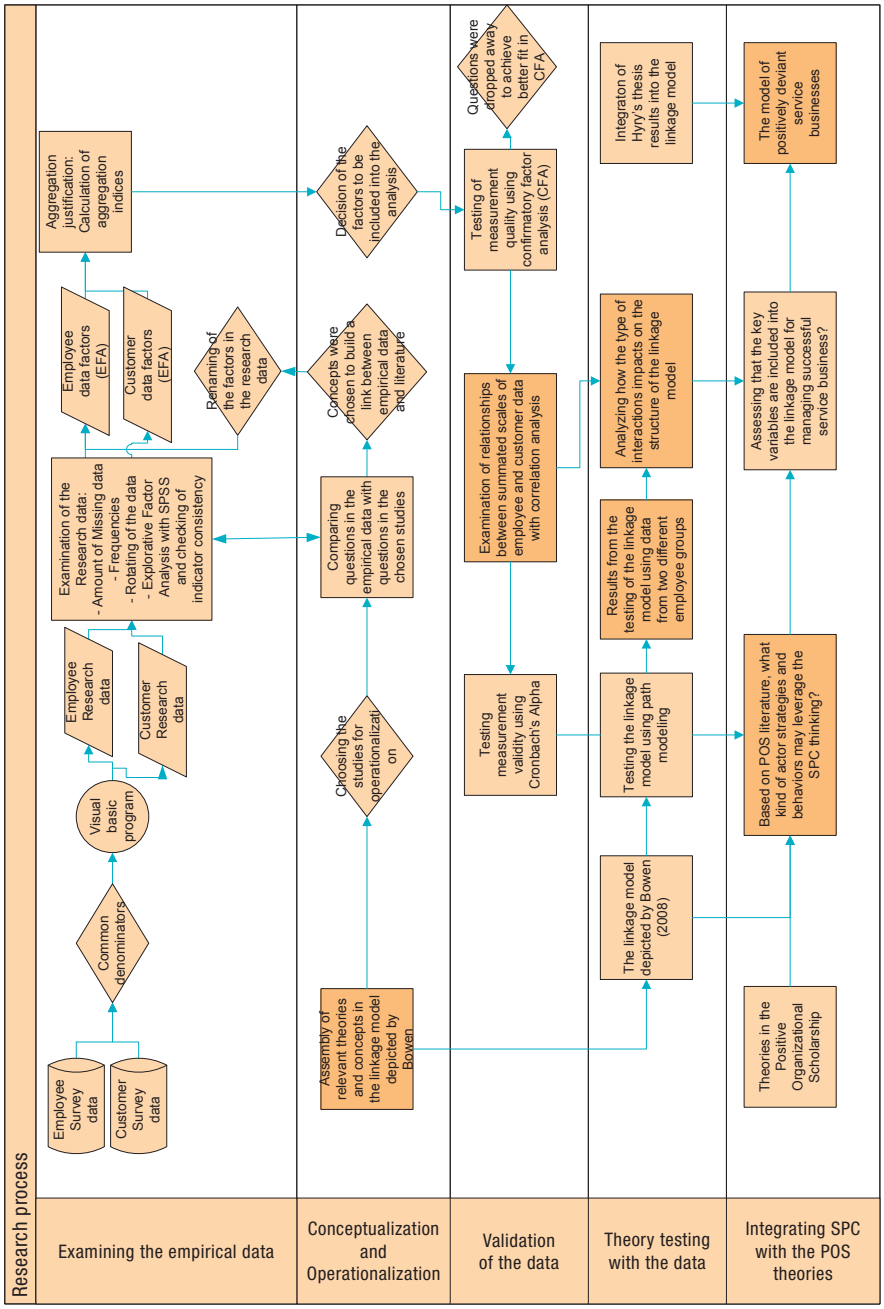

Figure 18. Research process to test the linkage model with empirical data.

As discussed earlier, two researchers worked on the analysis to encapsulate all the linkages within the linkage model. The integrated result, covering the end-to-end service profit chain as depicted by Bowen (2008) is presented in Appendix 14.

5.1 Examination of the Empirical Data

The first part of the examination phase consists of data preparation for the explorative factor analysis: analysis of data characteristics, sample sizes, normality and missing values. After the explorative factor analysis was conducted, the factors were named based on the operationalization. The individual employee level data was aggregated with business unit level data for correlations analysis and path modeling. The second part of the data examination consisted of naming the research data

5.1.1 Description of the Survey Data

As mentioned earlier, the research data was drawn from two main sources: employee satisfaction and customer satisfaction surveys from Wärtsilä globally.

Company Background

Wärtsilä provides customers with complete lifecycle power solutions for marine and energy markets. The company has a history going back to 1834 when it was founded in the municipality of Tohmajärvi in Karelia, Finland. Today, some 177 years later, the company has over 18 000 employees in more than 70 countries. The company recorded strong profitability in their quarterly closings in 2009 and 2010.

> We provide full service throughout the product lifecycle for both marine and power-plant customers. Our basic support offers you OEM spare parts, field services worldwide, advanced technical services and global training services for all needs. (Wärtsilä, 2010)

Wärtsilä has three sales divisions Ship Power, Power Plants and Services. The Industrial Operations division is responsible for the manufacture of engines, propellers and providing automation solutions for the sales divisions. The Services division provides services for customers related to equipment maintenance, engine performance optimization and other requested services. These customers operate either in marine, such as cruise and ferry, merchant boats and off shore operations, or in power plants businesses. The customer survey data used in this study covers all market segments of the company in respective countries.

The Services division was selected as the source of survey data, as the researcher works for Wärtsilä. As of the end of 2010, the Services division represents over 60 percent of the whole personnel.

Description of Employee Survey Data

The role of the employee satisfaction survey is to identify how employees perceive different phenomena in the workplace. The employee survey data used in this research is from Wärtsilä's Global Services business from 2007. This annual

employee satisfaction survey was conducted in 10 different languages. It has been considered important that employees can answer the survey questions in their mother tongue. The questionnaires covered topics such as leadership, motivation, engagement, commitment, communication, target setting and strategy alignment. The employee satisfaction survey, also known as MyVoice, is technically conducted and analyzed by Evalua. Evalua is a company of Finnish origin (www.evalua.fi) specialised in organisation related research.

Table 9. Employee data sample

Employee group	Total number of employees	Participants in the survey	Sample data	Sample data / total number of employees
Account managers	901	639	614	68.15 %
Field service eng.	3686	1898	1789	48.53 %

As shown in Table 9, the research data for this thesis was collected from two employee groups, account managers and field service engineers. These two employee groups work at the customer interface and thus influence customers' perceptions of service quality. Data from other employee groups, such as administration, was not utilized as they do not have close contact with the customers.

Table 9 firstly presents the total number of employees per employee group in 2007 and the third column shows the number of employees participating in the employee survey. Only those employee answers which had respective customer answers were included in the sample data (see appendix 4). In order to create the sample data, the employee survey data is mapped with the respective customer survey data at a company level. However, some of the companies had not collected the customer survey data and thus the employee data of that company could not be included in the sample either.

The sample data shown in the fourth column in Table 9 is used in this study. Even though the participation percentage of field service engineers, in particular, is lower than 50%, the analysis regarding the employee service years presented in Appendix 3 suggests that this sample represents the overall population well[13]. The employee survey questionnaire is presented in Appendix 6. The sections below describe in more detail the two employee groups', account managers and field service engineers, work roles and how they interact with customers.

Account managers are responsible for overall customer relationship building. They are the primary contact point for dedicated customers regarding inquires related to new orders, existing installations (warranty) and complaints. Account managers regularly collect customer feedback (e.g. development ideas) and satisfaction data from their customers.

Field service engineers are responsible for providing field service activities such as repair, maintenance and technical advice about Wärtsilä installations including engines and other equipment either at customers' premises or at Wärtsilä's own workshops. *Field service* engineers are accountable for delivering the whole turn-key solution. During the delivery, metrics such as quality, time used and the cost of the work are measured.

13 This comparison was done with the personnel data of these employee groups.

The employee satisfaction survey was conducted through an intranet website and the invitation letter was sent out in late February 2007. Individual employees were encouraged to share their opinions during the period between 15.3.07 and 6.4.07. The individual employee responses were collected and analyzed by a company called Evalua International. Internally the results were analyzed on several levels (corporation, company, business unit and department) and compared to the previous year's respective results. It is recommended that each organization shares the results with their employees and plan concrete actions where perceived discrepancies are found.

Customer Survey Data

Customer satisfaction has been measured for both project and service businesses for several years in Wärtsilä. The survey is called CROL (Customer relationship online) and it has been developed and conducted in close co-operation with Wärtsilä and the Research Institute for Project Based Industry in Finland. The PBI Institute and its personnel have academic ties with the Åbo Akademi University. The theoretical framework adopted in the CROL survey has a theoretical base in Gustafsson's (2002) doctoral thesis.

The customer satisfaction survey data consists of quarterly replies from each customer and is collected continuously and from nominated customers only. The survey process is conducted partly online and sometimes via account managers. According to the statistics and estimation from the PBI Institute[14], approximately 50 percent of the customer replies are received through online surveys and the remaining 50 percent through an interview process. The high numbers of offline answers are mainly due to the fact that account manager are encouraged to apply the interview process instead of online feedback with new customers. They help the customers to fill in the excel questionnaire and use this as an opportunity for building a closer contact. The customer satisfaction survey is collected between 7.4.2007 and 31.12.2008 and the measurement items are presented in Appendix 7. While the employee data is collected once a year[15], the customer survey data was collected continuously. Thus this research set-up is due to a practical limitation originating from the practice of collecting these surveys data in Wärtsilä. The employee and customer survey sample descriptions are presented in Table 10.

Table 10. Data descriptive of the research samples.

	Data sample period	Individual level data	Number of business units
Account managers	15.3.2007–6.4.2007	614	43
Field service engineers	15.3.2007–6.4.2007	1789	43
Customer data	7.4.2007–31.12.2008	1987	38

Table 10 shows the collection periods of the samples and the number of individual (employee and customer) replies and the number of business units from which the individual survey data has been collected. The business unit refers to the local company in a country where Wärtsilä has operations. The measure-

14 Email 7.10.2009 Tomas Arhippainen, Pbi-institute

15 The employee survey 2008 results show same levels of employee satisfaction as 2007.

ments scales used were a five point ordinal Likert scale for employee data and a ten point metrics scale for customer data. Due to business sensitivity, mean values and standard deviations in the empirical data are not presented in this study.

Before starting the actual analysis phase a pre-processing of the survey data was needed to convert it into research data. The process is described in detail in Appendix 4.

Statistical Properties of Research Data

Normality and Missing Values

Average skewness and kurtosis among studied variables were -.6 and .1 with standard deviations of .1 and 1.1. [16] None of the variables in employee or in customer data exhibit normality (measures strongly skew to the right), thus such methods were chosen that would be applicable with non-normal data. In cases like this principal axis factoring is recommended with non-normal data as the extraction method (Costello and Osborne, 2005) and maximum likelihood estimation method (Múthen, 2011) in EFA.

In addition, the number of factors extracted was based on a conceptual criterion as recommended by Costello and Osborne (2005), rather than using scree test or eigenvalue criterion. Furthermore, Hair (2006) recommends using the Promax rotation method when it is assumed that the factors in the research data correlate, as is the case in this study.

Missing data was not a serious problem within the employee data; the average amount of missing data for account management was .9 % and 4.8 % for field service replies. However, the missing data in employee data was not randomly spread among the sample data (Little's MCAR test had significance of .00) and therefore it was suspected that it might bias the results. Because the missing data was systemically spread among sample data, maximum likelihood estimation (MLE) was used for inputting the missing values.

In the case of customer data, a significant amount of missing data existed. The amount of missing values in the individual level data was 10 % with a standard deviation of 7 %. The missing data ranged from a minimum of 1 % to a maximum of 27 %. Little's significant test supported the view that values were missing at random and thus were not being a function of other variables. The effect of missing data was assessed using two main approaches. Firstly, in the explorative factor analysis (EFA) all analyses were conducted for both data with missing values and data with MLE estimated missing values. Secondly, MLE estimated data was used when the relationships between employee and customer data was examined.

5.1.2 Explorative Factor Analysis (EFA)

The selection between different factor solutions was mostly based on conceptual criteria: the factors in the final result nicely complemented the concepts within the theoretical framework. In addition to the conceptual criteria, the different factor solutions were evaluated by the strength of factor loadings and the ex-

16 Skewness and kurtosis measure how skewed or the peakedness of distribution of a variable. Therefore, these values present how strongly the variables differ from normal distribution, on the average.

2007	Pattern Matrix	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Strategy	0.82	0.06	0.04	0.03	-0.01	-0.10	0.00	-0.02	0.04	-0.02	0.02	0.02	0.03	0.06	-0.03	0.00	-0.03	-0.06	0.02	-0.02
Q76	The Division/Business has a clear strategy	0.75	-0.03	0.00	-0.06	0.03	0.01	0.00	0.02	0.07	0.02	0.02	0.01	0.16	0.06	-0.05	-0.01	-0.01	-0.12	0.05	-0.13
Q77	I am well aware of the Division's/Business's strategy and objectives	0.74	0.05	0.06	0.05	-0.02	-0.12	-0.03	0.02	0.04	0.01	-0.02	0.01	0.01	0.03	-0.02	-0.01	-0.01	-0.06	0.00	0.09
Q78	The Division/Business is executing Wärtsilä's defined strategy as it should	0.73	-0.03	0.03	0.02	0.04	-0.01	0.02	0.06	0.07	-0.03	-0.03	0.01	-0.13	-0.04	0.02	0.02	0.05	0.04	-0.03	0.12
Q75	Wärtsilä is executing its defined strategy as it should	0.70	-0.04	-0.07	0.02	0.02	0.19	-0.02	0.02	-0.02	0.02	0.02	-0.03	0.05	0.01	-0.01	-0.01	0.07	-0.02	0.02	-0.09
Q74	I am well aware of Wärtsilä's strategy and objectives	0.69	0.05	-0.01	0.02	0.03	0.11	0.01	-0.03	0.01	-0.03	0.00	0.01	-0.10	-0.04	0.06	0.01	0.04	0.05	0.01	0.06
Q73	Wärtsilä has a clear strategy	0.56	0.04	0.01	0.01	-0.06	0.08	0.01	-0.01	-0.06	0.03	0.03	-0.02	-0.02	-0.04	0.01	0.00	0.07	0.09	-0.05	0.26
Q79	Wärtsilä's strategy and objectives are sensible and achievable																				
	Supervisor	0.02	1.03	-0.04	-0.04	-0.03	0.04	0.00	0.06	-0.04	0.00	-0.03	0.01	-0.02	-0.01	-0.01	-0.02	-0.14	-0.01	-0.03	-0.02
Q37	My closest superior acts fairly and objectively	0.00	1.01	-0.05	-0.02	-0.04	-0.01	0.01	-0.12	0.10	0.04	-0.11	-0.01	-0.05	-0.03	0.03	0.04	-0.04	0.07	0.00	0.02
Q31	My closest superior supports and helps me when needed	0.02	0.86	-0.02	-0.17	0.02	-0.02	-0.01	-0.10	-0.02	-0.02	-0.01	0.00	0.02	0.03	0.02	0.01	0.19	0.01	0.02	-0.02
Q61	How satisfied are you with the communication with your immediate superior at	0.04	0.84	-0.03	0.00	-0.03	-0.04	0.00	-0.03	-0.02	0.01	-0.02	0.00	0.03	0.03	-0.03	0.03	-0.14	0.02	0.00	0.08
Q36	I can trust what I have agreed with my superior	0.02	0.80	-0.06	0.04	-0.04	-0.05	-0.02	-0.10	0.09	0.02	-0.16	-0.02	-0.12	0.00	0.09	-0.04	0.09	0.01	0.00	0.12
Q32	My closest superior participates adequately in developing and organizing my ex	0.01	0.37	0.08	0.25	0.02	0.11	-0.03	0.22	-0.09	-0.02	0.10	0.03	-0.03	0.00	-0.08	-0.02	-0.14	-0.12	-0.03	0.05
Q38	My closest superior acts fairly and objectively																				
Q39	I am treated fairly and objectively in my working community																				
	Communication quantity	0.03	-0.09	0.99	-0.01	0.07	0.01	0.02	-0.01	-0.08	-0.01	-0.05	0.00	-0.05	-0.03	0.00	-0.01	0.01	0.03	-0.07	-0.11
Q47c	Communication is adequate between different countries	-0.01	0.01	0.91	0.00	0.02	0.01	0.07	0.02	-0.08	-0.02	-0.05	0.04	-0.03	-0.06	0.00	-0.03	-0.05	0.05	0.01	-0.08
Q49a	between different countries	0.03	-0.07	0.87	0.01	0.02	-0.01	-0.03	-0.04	0.00	0.01	0.01	-0.04	-0.01	0.01	0.03	0.03	0.04	-0.04	0.07	0.00
Q47b	Communication is adequate between Divisions/Businesses	0.02	0.00	0.83	0.01	0.02	-0.04	0.01	0.00	-0.04	-0.03	0.03	0.00	-0.01	-0.03	-0.02	-0.01	-0.04	0.02	0.05	0.03
Q49b	between Divisions/Businesses	0.03	-0.04	0.74	-0.09	0.00	-0.03	-0.03	0.03	-0.01	0.00	0.04	-0.01	0.01	0.05	-0.01	0.04	0.01	0.01	0.03	0.07
Q47d	Communication is adequate between business management and personnel	-0.02	0.01	0.69	-0.06	-0.02	-0.04	0.01	0.05	-0.02	-0.01	0.04	0.01	-0.01	0.02	-0.02	0.04	-0.03	0.03	0.08	0.16
Q49d	between business management and personnel	-0.02	0.24	0.38	0.00	0.00	0.01	-0.09	0.18	0.05	0.10	-0.04	0.16	-0.03	0.00	0.01	0.09	-0.01	-0.02	-0.15	
Q47a	Communication is adequate inside my department	-0.07	0.24	0.36	0.02	0.05	0.03	0.01	-0.05	0.14	0.00	0.17	-0.01	0.14	-0.06	-0.06	-0.03	0.05	-0.04	0.01	-0.12
Q49a	inside my department																				
	Internal quality	0.05	-0.13	-0.01	0.85	0.00	-0.04	-0.04	0.04	0.00	0.03	-0.02	0.00	-0.07	0.07	-0.02	0.02	0.04	-0.02	0.04	-0.03
Q27	Everyone takes responsibility for correcting errors and and defects in my work	0.03	-0.11	-0.02	0.81	0.02	-0.02	0.00	0.04	-0.03	0.05	-0.05	0.00	-0.07	0.06	-0.01	0.02	0.02	-0.05	0.07	0.00
Q28	Everyone takes responsibility for achieving our common goals in my working c	0.00	-0.04	0.02	0.58	0.05	0.02	-0.03	0.01	0.04	0.02	0.05	0.01	0.00	-0.01	-0.01	-0.02	0.06	0.08	0.02	-0.20
Q26	Teamwork is not evaded in my working community	0.01	0.05	-0.07	0.56	0.06	0.00	0.02	-0.13	-0.09	-0.01	-0.03	0.01	0.06	-0.01	0.02	-0.01	0.05	0.10	-0.01	0.20
Q24	My working community produces good quality services/products	0.00	0.14	-0.04	0.53	-0.01	-0.05	0.01	-0.02	0.17	-0.03	0.07	-0.05	0.00	-0.03	0.05	0.02	0.07	0.09	-0.01	-0.16
Q25	My colleagues support and help me when needed	0.01	-0.03	-0.03	0.46	0.05	-0.01	0.03	-0.13	-0.03	-0.01	-0.05	-0.01	0.05	0.00	0.09	0.01	0.07	0.01	-0.03	0.21
Q23	My working community delivers services/products on time	-0.08	0.08	-0.03	0.32	-0.04	-0.02	0.05	-0.15	0.07	0.03	-0.01	0.00	0.11	-0.04	0.03	-0.02	0.19	0.00	-0.01	0.20
Q59	In our working community we learn from mistakes																				
	Personal engagement	0.00	0.02	0.06	0.02	0.87	0.01	-0.01	-0.14	-0.07	-0.04	-0.07	-0.01	0.02	-0.01	0.09	-0.03	0.05	0.10	0.01	-0.06
Q9	I appreciate my own work	0.02	-0.03	0.06	0.10	0.81	-0.03	-0.02	-0.13	-0.08	-0.01	-0.06	0.01	0.02	0.02	-0.03	0.01	0.04	0.11	0.01	-0.04
Q10	My work is meaningful	0.05	0.08	-0.08	-0.04	0.77	-0.10	0.04	0.10	-0.10	-0.07	0.06	-0.03	-0.06	-0.04	0.07	-0.02	0.02	-0.06	0.02	0.13
Q8	I am satisfied with my present job	0.02	-0.07	0.07	-0.05	0.70	0.02	0.02	-0.07	0.17	0.02	-0.12	0.01	-0.06	0.02	-0.01	0.05	0.02	-0.02	-0.15	0.00
Q17	I can use my knowledge and skills at work to their full extent	0.04	-0.09	0.09	0.02	0.62	0.06	0.01	-0.10	0.06	0.02	-0.13	0.01	0.13	0.01	0.08	0.02	-0.04	-0.06	-0.09	-0.13
Q18	My competence meets the requirements of my job	-0.04	0.05	0.03	0.12	0.62	-0.01	0.00	0.04	-0.15	-0.07	0.02	0.02	0.02	-0.06	-0.08	0.00	0.01	0.21	0.04	-0.04
Q11	I find pleasure in doing my present job well	0.00	0.00	-0.02	-0.03	0.51	-0.04	-0.03	0.12	0.20	0.06	-0.02	-0.01	-0.07	0.10	-0.01	-0.04	-0.14	0.00	0.00	0.15
Q19	My work offers me possibilities for personal growth and development	-0.04	-0.10	-0.15	-0.14	0.44	0.01	0.00	0.05	-0.06	0.09	0.18	0.02	-0.05	-0.07	-0.24	0.00	0.15	-0.05	0.03	0.07
Q1	How varied or monotonous is your work?	0.02	0.00	-0.08	0.07	0.30	-0.05	0.01	0.20	-0.01	0.03	0.06	0.00	-0.02	-0.03	-0.09	0.07	0.25	0.01	0.03	-0.11
Q4	Is your work appreciated in your working community?																				
	Values	0.03	0.00	-0.01	-0.03	1.01	0.00	-0.06	-0.06	-0.06	0.02	0.05	-0.01	0.00	0.00	0.00	0.01	0.01	-0.01	0.02	-0.11
Q67	I understand what Wärtsilä's values mean	0.04	0.01	-0.01	-0.06	-0.04	0.96	0.02	-0.03	-0.03	0.01	0.05	-0.02	0.02	0.01	-0.03	0.02	0.00	0.01	-0.02	-0.11
Q66	I know Wärtsilä's values	0.04	-0.02	0.01	-0.02	0.01	0.88	0.00	0.05	-0.04	-0.01	0.02	0.00	-0.02	0.00	0.01	0.00	-0.02	0.10	0.01	-0.07
Q68	I accept Wärtsilä's values	0.02	0.01	-0.05	-0.01	0.01	0.78	-0.01	0.03	-0.02	-0.03	-0.01	-0.01	0.06	-0.01	0.00	0.00	0.00	0.14	0.00	-0.05
Q69	I am committed to acting in accordance with Wärtsilä's values in my work	0.01	-0.03	0.02	0.07	-0.05	0.56	-0.04	-0.06	0.12	-0.03	-0.09	0.01	0.04	0.04	0.00	-0.02	0.05	-0.14	0.02	0.18
Q70	We have discussed Wärtsilä's values in our working community	0.04	0.02	0.03	0.09	0.05	0.51	0.02	-0.03	0.05	-0.03	-0.14	0.03	-0.04	-0.02	0.05	0.00	0.02	-0.13	-0.02	0.22
Q71	Wärtsilä's values guide the practical work in our working community																				
	Communication channels	0.02	0.00	0.04	-0.03	0.04	0.01	0.89	0.00	0.00	0.03	-0.04	0.05	-0.02	-0.02	-0.01	-0.01	0.01	0.01	-0.01	-0.14
Q48b	Corporate intranet	0.01	0.06	-0.01	-0.02	-0.01	-0.06	0.89	-0.02	0.01	0.03	-0.02	0.00	0.06	0.02	-0.03	-0.02	-0.03	-0.01	-0.04	-0.02
Q48c	intranet of own business (Ship Power, Power Plants, Service, Engine division)	0.05	-0.02	0.02	-0.05	0.05	0.05	0.76	0.03	0.05	-0.01	0.00	-0.02	-0.02	0.00	-0.01	0.02	0.03	0.00	-0.01	-0.10
Q48a	Workroom/Newsdesk	0.00	-0.05	0.05	0.03	-0.05	0.07	0.67	-0.01	-0.01	0.00	0.05	0.00	-0.06	0.03	-0.01	0.01	0.01	0.05	0.00	0.03
Q48e	Group's personnel magazine Wattsup	-0.06	-0.03	-0.08	0.05	-0.02	-0.09	0.65	-0.02	-0.04	-0.02	0.06	-0.05	0.03	0.03	-0.01	-0.01	-0.03	-0.07	0.06	0.21
Q48d	my own unit's local intranet	-0.04	-0.04	0.12	0.03	-0.04	0.04	0.53	0.02	0.04	0.00	-0.03	0.01	-0.01	0.00	0.07	0.00	0.03	-0.03	0.03	0.08
Q48f	bulletin board																				
	Rewarding	0.02	-0.05	-0.04	-0.07	-0.04	0.01	-0.01	0.98	-0.03	0.01	-0.13	-0.02	0.01	0.00	0.12	0.01	0.03	0.01	-0.04	-0.04
Q41	I am properly remunerated for a job well done	0.04	-0.04	-0.02	0.01	-0.06	-0.02	-0.01	0.96	-0.12	-0.02	-0.09	-0.01	0.05	-0.03	0.04	0.02	-0.04	0.04	0.00	-0.13
Q43	My salary is fair compared to other employees with similar tasks	0.02	-0.09	0.06	-0.06	-0.09	-0.02	0.03	0.72	0.08	-0.02	-0.12	0.00	-0.04	0.02	0.07	0.00	-0.03	0.04	-0.02	0.19
Q46	Our company's existing remuneration systems encourage better results	-0.05	0.00	0.00	-0.07	0.00	-0.05	0.00	0.69	0.00	0.02	0.02	0.00	0.02	0.00	0.02	-0.02	-0.03	0.14	0.05	-0.06
Q42	I get more than monetary recognition for work done well	-0.01	0.01	0.02	0.03	-0.06	0.02	0.02	0.61	0.12	-0.01	0.03	0.01	0.02	0.00	-0.03	-0.02	0.01	-0.03	-0.02	0.07
Q45	Initiative is fairly rewarded in my working community	-0.05	0.04	0.09	0.09	-0.08	0.02	-0.01	0.56	0.09	-0.03	0.05	-0.02	0.06	-0.05	-0.07	-0.02	0.09	0.01	-0.03	0.01
Q44	Recognition for teamwork achievements is given fairly in my working commun																				

Table 11. Employee survey data factor loadings.

	Workplace climate																				
Q22b	In my working community we discuss the work targets and the means to achie	0.04	0.02	-0.04	0.00	-0.07	-0.02	-0.01	-0.06	1.06	-0.04	-0.02	-0.01	0.06	-0.04	0.03	-0.02	0.01	0.06	0.01	-0.11
Q22a	we discuss the work tasks together	0.02	0.05	-0.05	0.02	-0.02	-0.06	-0.01	-0.07	0.98	-0.04	0.05	-0.02	0.05	-0.11	-0.01	-0.01	0.04	0.06	0.00	-0.15
Q22c	In my working community participation in workplace development is encourage	-0.01	0.04	-0.03	-0.02	-0.03	0.00	-0.01	0.04	0.93	-0.02	0.00	0.03	0.00	0.03	-0.05	0.01	-0.07	0.08	-0.01	-0.03
Q22d	In my working community suggestions for improvements are implemented	0.02	0.01	-0.05	0.07	-0.01	-0.03	0.04	0.03	0.79	0.01	0.01	0.02	-0.03	-0.02	-0.01	0.03	-0.07	0.01	-0.02	0.05
Q22e	In my working community feedback and ideas are obtained from clients	0.03	-0.03	-0.04	0.02	-0.02	0.04	0.04	-0.01	0.59	0.00	-0.04	0.04	-0.03	0.04	0.00	0.02	0.01	-0.01	0.05	-0.01
Q22f	In my working community the more experienced co-workers show/teach their	0.00	0.01	-0.06	0.31	-0.05	-0.08	0.04	0.02	0.46	-0.06	-0.03	-0.02	0.07	-0.04	-0.02	0.01	0.07	0.02	-0.02	-0.03
Q20	I am encouraged to develop my professional skills	-0.04	0.10	0.00	-0.05	0.29	0.02	-0.04	0.10	0.35	0.06	-0.04	-0.02	-0.06	0.16	0.02	-0.01	-0.11	0.03	0.01	0.07
Q6a	What is the atmosphere like in your working community? Encouraging and sup	-0.03	0.02	-0.05	-0.01	0.16	0.02	-0.02	0.04	0.32	0.02	0.28	-0.02	-0.05	0.03	-0.01	0.00	0.03	-0.01	0.01	0.14
	Autonomy																				
Q30c	your workload?	0.00	0.03	0.04	0.01	-0.07	0.01	0.02	0.00	-0.04	0.83	-0.08	0.00	-0.04	-0.04	0.15	-0.02	0.02	-0.02	-0.01	-0.02
Q30b	your work content?	0.01	-0.08	-0.03	-0.06	0.09	0.01	-0.02	-0.02	0.02	0.83	0.02	-0.02	-0.02	0.02	-0.01	0.01	0.01	0.01	0.01	-0.02
Q30d	the timing and sequence of jobs?	0.01	0.08	-0.02	0.08	-0.15	-0.06	0.04	0.03	-0.16	0.80	-0.01	0.01	0.06	-0.05	-0.03	0.02	0.00	0.03	-0.01	0.02
Q30a	the versatility and variety of your work?	-0.01	-0.04	-0.05	-0.07	0.10	0.04	-0.01	-0.03	0.05	0.78	0.05	-0.02	-0.02	0.02	-0.03	0.00	-0.01	-0.02	0.01	-0.01
Q30e	general work methods and procedures at your work?	-0.02	0.07	0.01	0.11	-0.01	-0.01	0.01	-0.02	0.00	0.67	0.00	0.04	0.03	-0.02	-0.08	0.00	-0.04	0.04	0.02	-0.05
	Atmosphere																				
Q6e	What is the atmosphere like in your working comm.?Quarrelsome and discordant	0.05	-0.08	0.09	0.03	-0.09	0.02	-0.03	-0.18	-0.03	0.01	0.95	0.00	-0.03	0.06	0.06	-0.04	0.00	0.07	-0.05	0.07
Q6d	What is the atmosphere like in your working community? Strained and tense	0.06	-0.10	-0.03	-0.07	-0.09	0.02	-0.01	-0.06	-0.04	0.00	0.92	-0.02	-0.04	0.00	0.16	-0.03	0.02	0.03	0.01	0.06
Q6c	What is the atmosphere like in your working community? Prejudiced and rooted in old habits	-0.02	-0.14	0.00	0.01	-0.09	0.00	0.01	-0.09	0.13	0.01	0.60	0.04	-0.05	0.07	0.01	0.06	0.02	0.03	-0.03	0.11
Q7	Do you feel that you are a victim of mental bullying or abuse in your working community ?	-0.07	0.15	-0.14	0.00	0.09	0.00	0.09	0.02	-0.06	-0.10	0.48	0.02	0.03	-0.06	0.04	0.08	0.02	-0.07	0.02	0.00
Q6b	What is the atmosphere like in your working community? Amiable and pleasan	-0.02	0.09	0.01	0.06	0.08	0.04	0.02	-0.01	0.12	0.02	0.44	-0.03	-0.03	-0.02	0.06	-0.02	-0.05	-0.04	-0.01	0.08
	Facing hardship																				
Q50b	Failures and omissions are covered up between Divisions/Businesses	0.00	-0.03	0.02	-0.02	0.03	-0.02	0.00	-0.03	-0.02	0.00	-0.01	0.90	-0.01	-0.02	0.03	0.00	0.02	-0.02	-0.01	0.01
Q50d	Failures and omissions are covered up between different countries	0.04	0.00	0.01	-0.04	-0.03	-0.03	-0.01	-0.01	0.03	0.01	0.01	0.82	-0.01	0.02	0.01	-0.01	-0.02	0.03	0.00	0.00
Q50c	Failures and omissions are covered up between different countries	0.01	0.00	0.04	0.00	0.03	0.01	-0.01	-0.02	0.01	-0.01	-0.08	0.79	-0.07	-0.02	0.06	0.00	-0.03	-0.01	0.02	-0.01
Q50a	Failures and omissions are covered up inside my department	-0.07	0.02	-0.10	0.06	-0.04	0.01	0.01	0.03	-0.02	-0.01	0.15	0.56	0.16	0.00	-0.09	0.01	0.01	0.01	-0.02	-0.08
	Targets																				
Q84	I am well aware of my working community's/department's tasks and objective	0.05	-0.04	-0.05	-0.01	-0.01	-0.01	-0.01	0.02	0.05	-0.01	0.00	0.00	0.81	-0.02	0.00	-0.02	-0.03	0.00	0.02	0.12
Q86	I know very well the tasks of my job and the objectives set for me	-0.04	-0.01	0.01	0.05	0.11	0.02	0.02	0.05	-0.01	-0.03	-0.07	0.01	0.69	0.07	0.05	-0.01	0.01	0.11	-0.04	-0.03
Q85	I know the key indicators for my working community/department	0.05	-0.04	-0.06	-0.07	-0.02	0.11	0.00	0.01	0.11	0.04	-0.06	0.01	0.65	0.00	0.04	-0.01	-0.02	-0.03	0.05	0.09
Q83	I am well aware of our local Company's tasks and objectives	0.17	-0.10	0.00	-0.10	-0.02	0.02	-0.01	0.00	-0.01	0.01	0.02	0.00	0.50	0.00	-0.06	-0.01	-0.06	-0.05	0.05	0.41
Q87	The tasks of my job and the objectives set for me are sensible and achievable	0.04	0.04	0.03	0.10	0.15	-0.02	-0.02	0.12	-0.09	0.07	-0.06	-0.01	0.43	0.02	0.13	0.05	0.06	0.08	-0.10	0.09
	Development discussion																				
Q64	Are the scope and quality of these discussions adequate?	-0.01	0.13	-0.07	0.04	0.02	-0.02	0.05	-0.03	-0.15	-0.09	0.09	0.01	0.06	0.83	-0.02	0.00	0.05	0.00	0.02	-0.04
Q63	Have you had Development Discussions with your superior during the last 12	0.00	-0.07	-0.04	0.04	-0.02	0.00	0.00	-0.03	-0.02	-0.01	0.01	-0.02	0.01	0.75	-0.01	0.00	0.06	0.04	-0.02	-0.07
Q65	Do you think Development Discussions have had a practical effect?	0.01	0.09	0.05	0.01	-0.07	0.03	0.02	0.09	0.03	0.06	-0.01	0.01	-0.04	0.61	0.02	-0.01	0.00	0.08	-0.05	0.03
	Workload and work conditions																				
Q2	How often do you feel stressed out because of unfinished jobs?	-0.02	0.04	-0.07	0.00	0.04	-0.04	0.02	0.10	-0.04	-0.01	0.11	0.02	0.06	-0.02	0.75	-0.02	0.00	-0.05	0.04	-0.08
Q3	How often is your workload distributed unevenly so that jobs pile up?	-0.05	0.02	0.07	0.05	0.04	0.04	-0.05	0.01	0.00	0.00	0.12	0.01	0.00	0.01	0.71	0.02	-0.01	-0.04	0.04	-0.09
Q15	I feel like I'm being squeezed empty because of my work	0.03	0.02	-0.05	0.00	0.01	-0.05	0.01	0.20	0.00	0.04	0.32	0.03	0.02	-0.04	0.47	0.02	-0.06	0.00	0.00	-0.08
	Conflicting instructions																				
Q34	I receive conflicting instructions and orders from different levels in the organiz	0.00	-0.02	0.03	0.02	-0.04	0.00	-0.01	0.01	-0.01	0.00	0.00	-0.01	-0.03	0.02	0.00	0.91	-0.05	0.03	0.00	0.06
Q33	I receive conflicting instructions and orders from different individuals	0.01	0.05	-0.02	0.02	0.03	0.03	0.00	0.01	0.01	0.00	0.02	0.00	0.01	-0.02	0.00	0.84	-0.03	-0.04	-0.01	-0.05
	Feedback																				
Q55	I get feedback from my colleagues on how I have succeeded in my work	0.06	-0.11	-0.06	0.19	0.06	0.00	0.03	0.03	-0.04	-0.02	0.03	-0.03	-0.02	0.04	-0.01	-0.05	0.73	-0.03	-0.01	-0.17
Q54	I get feedback from my closest superior on how I have succeeded in my work	0.01	0.48	-0.05	-0.16	0.03	-0.03	-0.02	0.04	-0.03	-0.01	-0.02	0.00	-0.01	0.10	0.03	0.01	0.54	-0.04	0.03	-0.07
Q56	We discuss difficult employment-related issues in my working community	0.01	0.03	0.04	0.10	-0.03	0.04	-0.06	0.00	0.12	0.04	0.06	0.05	-0.01	0.02	-0.06	-0.01	0.47	-0.07	-0.06	0.00
Q57	Our working community receives feedback about success	0.02	0.02	0.13	0.00	-0.04	0.00	-0.01	0.20	0.10	0.02	0.00	0.00	-0.02	0.00	0.01	0.00	0.45	-0.04	0.01	0.02
Q58	Our working community receives constructive feedback about failures	-0.03	0.02	0.09	0.12	-0.03	0.03	-0.01	0.00	0.08	-0.03	-0.05	0.02	-0.01	-0.03	-0.01	0.02	0.37	-0.06	0.01	0.18
	Commitment																				
Q12	I am ready to work hard in order to advance Wärtsilä's success	-0.01	0.00	0.03	0.01	0.14	0.12	-0.01	0.08	0.12	0.03	0.07	0.02	0.03	0.05	-0.10	0.01	-0.05	0.68	0.04	-0.01
Q13	I am ready to work hard in order to advance in my career	0.00	0.02	0.10	0.08	0.08	0.08	-0.03	0.03	0.12	0.00	0.01	0.00	0.03	0.04	0.00	-0.02	-0.07	0.60	0.01	-0.04
	Communication openess																				
Q51	The openness of communication about challenges relating to local business ope	-0.04	-0.01	0.00	0.05	0.01	-0.01	-0.03	-0.05	0.02	0.01	-0.02	0.00	0.04	-0.01	0.05	0.01	-0.03	0.02	0.91	0.05
Q52	The openness of communication about challenges relating to Wärtsilä's busines	0.09	-0.01	0.05	0.05	-0.04	0.03	0.05	0.01	0.01	0.00	-0.06	0.00	-0.03	-0.02	0.04	-0.02	0.01	0.04	0.77	-0.05
	Confidence																				
Q81	Our local Company's strategy and objectives are sensible and achievable	0.24	0.05	-0.04	-0.04	-0.03	-0.11	0.00	-0.06	-0.12	-0.02	0.13	-0.03	0.12	-0.03	-0.08	0.00	-0.07	0.00	0.00	0.87
Q82	Our local Company monitors the correct indicators for measuring success	0.16	0.02	0.04	0.02	0.00	-0.04	-0.02	0.00	-0.04	-0.01	0.02	0.01	0.07	-0.01	-0.05	0.01	-0.12	-0.06	0.03	0.73
Q80	Wärtsilä will succeed against future competition	0.41	0.04	0.00	0.00	0.01	-0.01	0.01	0.01	-0.07	0.01	0.05	0.00	-0.03	-0.11	-0.03	-0.02	0.05	0.17	-0.08	0.47

istence of cross-loadings. Cross-loading refers to a situation in which a single variable has a strong affect on multiple different factors (Costello et al., 2005:2). The factor rotation method employed in this study was Promax, as the data was assumed to correlate (Hair, 2006).

Parallel with the EFA process, the conceptual validation of the constructs was conducted by reviewing existing SPC literature. The outcome of the employee data explorative factor analysis is presented in Table 11. The entire employee data is shown in Table 11 even though only six factors were used in the aggregation analysis phase as presented in Section 5.1.3. The aggregation analysis cut the number of factors to four which were applicable to the formation and testing of the linkage model.

The factor solution for employee data presented in Table 11 is an outcome of several iterations. Further to this, a confirmatory factor analysis was carried out and reported in Section 5.4.1 to confirm the factor solution. A similar table for the customer data is presented in Table 12. As mentioned earlier, only three of the five customer data factors were utilized in this study: responsiveness and empathy, reliability and assurance. These factors consist of measurement items describing customers' perceptions of service employees behaviors and attitudes.

		1	2	3	4	5
	Reliability					
F04	The quality of maintenance work is good.	0.91	0.02	-0.06	0.05	-0.02
F03	The behaviour and attitude of engineers is good.	0.86	0.14	-0.03	0.07	-0.16
F01	The service engineers are competent.	0.82	0.02	-0.05	0.07	0.03
F05	Wärtsilä gives you satisfactory status reports of ongoing maintenance work.	0.76	0.07	0.03	-0.06	0.13
F06	The maintenance reports are correct and useful.	0.71	-0.05	0.01	-0.05	0.28
F02	Service engineers are available when needed.	0.62	-0.09	0.21	0.04	0.06
T02	The Service Bulletins are understandable and useful	0.26	0.14	0.14	0.21	0.12
	Responsiveness & Empathy					
S09	The Account Manager contacts you often enough.	-0.02	0.92	0.03	0.00	-0.06
S11	The Account Manager listens to your opinions and pays attention to your needs.	0.08	0.91	0.00	-0.07	0.01
S10	The Account Manager informs you enough about different products and service	-0.03	0.85	0.05	0.05	-0.01
S12	The Account Manager ensures that your problems and inquiries are taken care	0.07	0.76	-0.02	0.03	0.10
S01	Wärtsilä understands your business.	0.09	0.38	0.02	0.15	0.28
	Spareparts					
P03	Wärtsilä is able to meet agreed delivery times	-0.05	-0.01	0.96	0.00	-0.02
P04	Wärtsilä's technical problem solving is efficient	-0.06	-0.10	0.87	0.09	0.06
P05	Wärtsilä is able to meet the agreed delivery times for spare parts.	0.01	0.01	0.87	-0.02	0.03
S14	Spare parts are easy to order.	0.20	0.22	0.62	-0.13	0.00
S15	Wärtsilä keeps you updated with the status of your orders.	0.10	0.20	0.61	0.08	-0.09
	Product performance					
P01	Wärtsilä's project management is competent	0.13	0.04	-0.07	0.83	-0.02
T01	The availability of the installation is high.	0.07	0.10	0.01	0.68	-0.04
P02	The quality and reliability of Wärtsilä's electrical components is good.	0.10	0.02	0.06	0.67	0.03
S13	The operating costs of the installation are in accordance with your expectations.	-0.08	-0.07	0.19	0.62	0.15
	Assurance					
T05	The response to technical inquiries is thorough and prompt.	0.24	-0.11	0.09	-0.04	0.72
S04	Wärtsilä is reasonable when handling complaints and claims.	-0.06	0.22	-0.01	0.05	0.70
T04	Technical problem solving is efficient.	0.25	-0.11	0.02	0.04	0.70
S02	Wärtsilä takes responsibility for its promises and actions.	0.01	0.24	-0.03	0.01	0.67
S03	Wärtsilä is open and sincere in its communication.	0.05	0.31	0.01	0.01	0.55
S05	Wärtsilä actively suggests ways to improve the performance of the installation.	-0.01	0.32	0.01	0.15	0.45

Table 12. Customer data factor loadings

5.1.3 Aggregation of Individual Level Responses to Business Unit Level

The process to create aggregated factor values from individual level measurement items to a business unit level in a specific company had several steps. First the individual level mean values of measurement items in employee and customer data per company were created using SPSS. Then these individual level (employee and customer) mean values were summarized per factor per individual.

The individual data (participants per company) varied, some having only 7 employee answers and some 11 customer answers. Therefore, the aggregated factor data using individual level mean factor values were created using SPSS/PASW random samples functionality. This functionality in SPSS randomly choose 7 employee data individual level factor scores and 11 customer data individual level factor scores and generated the aggregated data for that factor. The aggregation indices were calculated using SPSS from random samples of responses within companies, explicated above, and the justification to use the calculated values were analyzed using recommendations provided by LeBreton and Senter (2008:836).

The justification test for aggregating individual level data into company level data was carried out by aggregation indices ICC(1), ICC(K) and R_{wg}. In organizational research the most relevant aggregation justification index is R_{wg}, which measures within-group agreement (Salanova et al., 2005:1221). LeBreton's (2008) recommendation guidelines for calculating IRA, R_{wg}, is shown in Table 13.

Table 13. Revised standards for interpreting inter-rater agreement (IRA) estimates (LeBreton et al., 2008:836).

Level of IRA (R_{wg})	Substantive Interpretation
.00 to .30	Lack of agreement
.31 to .50	Weak agreement
.52 to .70	Moderate agreement
.71 to .90	Strong agreement
.91 to 1.00	Very strong agreement

Six factors out of 20 in the employee data were chosen for this analysis because they best represented the key concepts in the linkage model presented in Figure 2. In the next Section 5.2, a thorough explanation will be provided about how these six factors were qualified to be part of the analysis. Figure 19 in the next section presents all 20 factors in the employee data and all five factors of the customer data and positions them into the correct construct in the linkage model. Nevertheless, based on the aggregation analysis presented in this section, only four factors (Supervisor, Internal Quality, Workplace Climate and Personal Engagement) were included in the operationalization process in Section 5.2. Three out of five customer data factors, Responsiveness and Empathy, Reliability and Assurance were chosen. Two customer data factors, Product and Spare Parts, were left out. The justification for choosing these three factors is that they describe customers' perceptions of the attitudes and behaviors of account managers and field service engineers, important factors in the examining of the linkages between employee and customer perceptions of service quality. Whereas Product Performance factor measures the product quality and Spare Parts factor measures the availability of the spare parts and the effectiveness of the delivery process. The reason for leaving these factors out of the examination was based on the fact that these two employees groups are not able to impact on these processes.

The factor level intraclass coefficients and IRA index R_{wg} for the two employee groups, account managers and field service engineers, are presented in Table 14. In the context of R_{wg}, green can be interpreted as strong (or very strong), light

green as moderate and yellow as low levels of agreement within a specific business unit. Similarly, levels of ICC's in green have been interpreted as supporting the aggregation. In contrast, the levels of ICC in light green are seen as relatively weak support for aggregation and yellow as clearly not acceptable. However, the most important index, R_{wg}, should be above the recommended value.

Interpretation of the different columns in Table 14: R_{wg} portrays how strongly respondents within the same group agree on a given measure; ICC(1) represents the effect size, that is, the amount of variance in construct that is explained by membership of a given group; ICC(K) is used to estimate the reliability of the mean ratings for groups of respondents. More specific interpretation of the employee data results follow.

The guidelines suggested for the interpretation of the indices presented in Table 14: James (1984) recommends a cut-off value .12 for ICC(1), whereas Click (1985) recommends a cut-off value .60 for ICC(K).

Table 14. Aggregation indices from employee data 2007 with 6 factors groups.

	ICC(1)		ICC(K)		Rwg	
Factor	Account managers	Field Service	Account managers	Field Service	Account managers	Field Service
Supervisor	0,10	0,09	0,56	0,51	0,60	0,60
Internal Quality	0,15	0,15	0,67	0,66	0,75	0,76
Workplace Climate	0,03	0,13	0,25	0,61	0,63	0,62
Personal Engagement	0,03	0,13	0,24	0,62	0,77	0,81
Rewarding	0,08	0,04	0,48	0,33	0,55	0,49
Autonomy	0,02	0,08	0,18	0,49	0,56	0,54

The indices in Table 14 differ significantly for each factor[17]. The following interpretations can be made:

1. The Supervisor factor score has a large degree of variability among the two employee groups (ICC(1) = .10 and .09), which is important, because the factors are used for predictive purposes and differences between employee groups make prediction possible. However, the ICC(K) indices suggest that the mean Supervisor scores are quite unreliable and thus aggregation may be unjustified. In contrast, when measured with R_{wg} indices, different teams share moderate levels of agreement, which supports the aggregation. All indices are also relatively homogenous between both groups.
2. Internal Quality also varies greatly between employee groups. The mean scores are reliable (ICC(K) = .67 and .66) whereas within group agreements are strong (R_{wg}). The justification of aggregating Internal Quality is thus strong.
3. In a similar fashion, the aggregate Workplace Climate factor scores for both teams show that the mean Workplace Climate scores are quite unreliable and thus the aggregation may be unjustified. The account manager teams have neither variability nor are the mean values reli-

17 The same analysis was conducted after dropping of some of the questions in the CFA phase and no major differences were found compared to this Table.

able (ICC(1) = .03 and ICC(K) = .25). In contrast, when measured with R_{wg} indices, both teams share moderate levels of agreement, which supports the aggregation. However, the modeling results of the account managers' teams should be open to question.

4. The same is also true for the Personal Engagement factor, but only for field service teams. The account manager teams have neither variability nor are the mean values reliable (ICC(1) = .03 and ICC(K) = .24). From this it follows that the aggregated values of the Personal Engagement factor should be used only for field service teams. In contrast, when measured with R_{wg} indices, both teams share high levels of agreement, which supports the aggregation. However, the modeling results of the account managers' teams should be viewed with some caution.
5. The unreliability of rewarding mean scores as measured with ICC(K) discredits the assumption that they could be aggregated into a team level. (ICC(K) = .48 and .33). Moreover, teams have a weak agreement on their rewarding (R_{wg} = .55 and .49). Therefore, the use of aggregate rewarding scores should be avoided.
6. Similarly, based on the above justifications, the aggregate scores for the Autonomy factor of both teams should not be used.

Except for the Rewarding and Autonomy factors, the concerns about justified aggregation are related mostly to account manager teams. It can thus be suspected that the account manager teams are either not homogenous enough to justify aggregation due to the problematic factors (as described above), or that the account manager team is not at an appropriate level of analysis to be analyzed at the aggregated level. However, the quality of IRA and IRR indices for Supervisor and Internal Quality groups is used as an argument that aggregated analysis can also be conducted for account manager teams, but that the results should be interpreted as indicative. Schneider et al. (1985) justify the aggregation in their organizational studies with ICC(1) values across all variables .1 and ICC(K) 0.47 and R_{wg} between .77 and .88.

Additionally, Salanova (1998b:155) et al. report ICC (1) values having an average of .22 and ICC (k) .83 and R_{wg} = .69 to .93. Both of these studies refer to the recommendations made by James and by Glick. Based on the results of the aggregation indices, the autonomy and rewarding factors were dropped from the path modeling [18] phase.

The corresponding aggregation indices for customer data are presented in Table 15.

Table 15. Aggregation indices for customer data.

	ICC (1)	ICC (K)	Rwg
Reliability	0.51	0.86	0.85
Responsiveness and empathy	0.41	0.8	0.71
Assurance	0.47	0.84	0.78

18 However, they could have been modelled on individual level but it was not seen motivating, as the aim was to study the customer-employee–relationship on company level.

The aggregation indices for customer data presented in Table 15 support the aggregation of the individual customer replies to a comapny level, as indicated with the color shading.

Taken together, R_{wg} and ICC values display an overall picture of the between-unit difference and some within-unit similarities. The broad range of agreement values might reflect that in some units, individuals do not always concur in their perceptions. One of the reasons might also be the variation in the different sizes of the units.

When comparing the aggregation justification techniques, it is important to remember that only R_{wg} measures the within-group agreement, which is the most relevant from the organizational climate research point of view (Salanova et al., 2005:1221). Based on the presented aggregation justification indices for 2007, the path analysis was conducted with four employee data factors: Supervisor, Internal Quality, Workplace Climate and Personal Engagement and three customer data factors: Responsiveness and Empathy, Reliability and Assurance.

5.2 Operationalization

As described in Chapter 4, the aim of the operationalization process is to ensure the correspondence between theoretical concepts and the measurements used. The operationalization is based on the following sequential processes. The process starts from the summary of the conceptualization of the linkage model presented in Figure 12. The second step consists of choosing eleven relevant studies in the literature to represent the SPC and linkage research. The third step covers the actual comparison, later on called mapping, between measurement items used in the chosen linkage studies with the measurement items in the research data. Even though employee data consists of 20 factors (Table 11) only six factors were chosen for the aggregation justification phase. These six factors have conceptual similarities with concepts identified in the conceptualization phase in the literature. The naming of the factors in the research data takes place in the fourth step. The naming of the factors in the research data is based on the names used in the chosen eleven studies, except for the Personal Engagement factor which is named using the definition provided by Kahn (1990:694). The following section presents in detail the operationalization process and its outcomes.

Operationalization of the Employee Data

The first step in the operationalization process links existing concepts in the theory to the research data measurement items. This theoretical comparison started with a selection of eleven studies in the SPC literature. These eleven studies were selected to operate as a link between the latent constructs in the research data and concepts in existing SPC theories; six for employee data and five for customer data. These eleven studies were chosen, firstly, for their significance in the field of service profit chain and linkage research and secondly, because they included measurement items and/or detailed conceptual definitions.

If we first focus on the operationalization of the employee data. The studies selected to link the employee data with the existing literature: Ryan et al. (1996), Hallowell et al. (1996), Schneider et al. (1998b), Gelade et al. (2005), Schneider et al. (2003) and Salanova et al. (2005).

All 20 of the employee data factors from EFA (table 11) were at first included in the mapping process. However, only six out of twenty of the factors had similar types of measurement items to those in the chosen six studies. Furthermore, after aggregation justification analysis, as described in Section 5.1.3, only four of these factors met the qualifying requirements needed for further analysis. These four employee data factors are Supervisor, Internal Quality, Workplace Climate and Personal Engagement. The mapping of the four factors from the employee data with the existing six studies are presented in Tables 16, 17, 18 and 19. The mapping is conducted by linking the employee data measurement items with the corresponding measurement item in a specific study in the literature. The two first columns in Tables 16, 17, 18 and 19 consist of the measurement item number and description in the employee research data. The following six columns refer to the existing study in the literature and are reported in the column header. The green fields by each study in Tables 16, 17, 18 and 19 show in bold the name used to define the concept in that study, followed by the measurement item applied in the specific study to measure the concept. As shown in Tables 16, 17, 18 and 19 very similar measurement items have been used in several studies researching the linkages in the service profit chain. However, the research data of this thesis does not cover all the measurement items used in these chosen 11 studies (6 for employee and 5 for customer data).

Table 16 presents the mapping of the measurement items of the Supervisor factor in the employee data. Interestingly, all six studies apply different names to define the concept of Supervisor. As can be seen in Table 16, Ryan et al. (1996) name call Supervision, Hallowell et al. (1996) Management, Schneider et al. (1998) Work facilitation and Schneider et al. (2003) Satisfaction with empowerment.

The Supervisor factor in the empirical data measures how employees perceive their supervisors. Measurement items impacting on the Supervisor factor consist of attributes like, fair,objective, helping and trustworthy. Additionally, communication and participation in employees' daily work arrangements affect the Supervisor factor. Supervisor factor depicts the Service Leadership construct in the linkage model represented by Bowen (2008).

Table 17 presents a similar mapping of measurement items defining the Internal Quality factor in the employee data. As in the previous case, the studies in the literature apply different names to define Internal Quality. Ryan et al. (1996) talk about External customer focus, Hallowell et al. (1996) use Service Capability, whereas Schneider et al. (1998) apply both Teamwork and Interdepartmental Service to describe measurement items included in Internal Quality. Gelade et al. (2005) use Team Climate and Schneider et al. (2003) apply Satisfaction with Workgroup whereas Salanova et al. (2005) talk about Service Climate to describe measurement items incorporated in Internal Quality.

The measurement items of the empirical data shown in Table 17 defining the Internal Quality factor include wordings like, everyone takes responsibility for correcting errors and achieving common goals, the working community produces and delivers good quality services/products and teamwork is not evaded in the working community. Internal Quality is an overall term used by Hallowell et al. (1996) and it fits well with the measurement items in the empirical data. Based on the conceptualization described in Chapter 3, these measurement items are closest to the Climate for Service construct in the linkage model depicted by Bowen (2008).

2007 nr.	Employee data questions	Ryan et al. 1996	Hallowell et al. 1996	Schneider et al. 1998	Gelade et al. 2005	Schneider et al. 2003	Salanova et al. 2005
Supervisor							
Q37	My closest superior acts fairly and objectively	**Supervision:** My supervisor treats everyone fairly					
Q31	My closest superior supports and helps me when needed		**Management:** My supervisor is available to me when needed	**Work facilitation:** My manager is responsive to my request for help or guidance			
Q61	How satisfied are you with the communication with your immediate superior about your daily work ?					**Satisfaction with empowerment:** How satisfied are you with the information you receive from management regarding what's going on in this company?	
Q36	I can trust what I have agreed with my superior						
Q32	My closest superior participates adequately in developing and organizing my everyday work		**Management:** Managers and supervisors want to hear about the problems and find the ways to fix them				
Q38	I am treated fairly and objectively in my working community	**Supervision:** My supervisor treats everyone fairly					

Table 16. Item level mapping of the measurement items used to define the Supervisor factor in employee data and chosen studies in the literature.

2007 nr.	Employee data questions	Ryan et al. 1996	Hallowell et al. 1996	Schneider et al. 1998	Gelade et al. 2005	Schneider et al. 2003	Salanova et al. 2005
Internal quality							
Q27	Everyone takes responsibility for correcting errors and and defects in my working community						
Q28	Everyone takes responsibility for achieving our common goals in my working com-munity				**Team climate:** Morale in my team is currently high.	**Satisfaction with work group:** the people I work with cooperate to get the job done	
Q26	Teamwork is not evaded in my working community		**Teamwork:** How satisfied are you with teamwork within your department of function				
Q24	My working community produces good quality services/products	**External customer focus:** I understand the requirements of my external customer	**Service capability:** How satisfied are you with your ability to meet your customer's needs?	**Global Service Climate:** How would you rate the overall quality of service provided by your business?		**Satisfaction with work group:** How would you rate the overall quality of work done in your work group?	**Service climate:** 1. The overall quality of services provided by our organization to customers is excellent 2.Employees in our organization have knowledge of the job and the skills to deliver superior service quality work and service.
Q23	My working community delivers services/ products on time						
Q59	In our working community we learn from mistakes						

Table 17. Item level mapping of the measurement items used to define the Internal Quality factor in employee data and chosen studies in the literature.

Measurement items describing the third factor, Workplace Climate, in the research data are presented in Table 18. Ryan et al. (1996) apply Quality Emphasis, Hallowell et al. (1996) use Management and Schneider et al. (1998) Managerial and Customer Feedback to portray the definition of similar measurement items. Gelade et al. (2005) use both Support Climate and Team Climate and Schneider et al. (2003) Satisfaction with Empowerment. The factor was named Workplace Climate, as none of the seven definitions fully covered all the measurement items in the research data.

2007 nr.	Employee data questions	Ryan et al. 1996	Hallowell et al. 1996	Schneider et al. 1998	Gelade et al. 2005	Schneider et al. 2003	Salanova et al. 2005
Workplace climate							
Q22b	In my working community we discuss the work targets and the means to achieve them				**Support climate:** local management do an excellent job of keeping us informed about matters affecting us.		
Q22c	In my working community participation in workplace development is encouraged	**Quality emphasis:** I have been involved in continuous improvement efforts				**Satisfaction with empowerment:** I feel encouraged to come up with new and better ways of doing things	
Q22d	In my working community suggestions for improvements are implemented		**Management:** At our company managers and supervisors want to hear about the problems and find the ways to fix them	**Managerial practices:** My manager is very committed to improving the quality of our area's work and service	**Team climate:** My manager involves me in planning the work of my team.		
Q22e	In my working community feedback and ideas are obtained from clients			**Customer feedback:** 1. We are informed about external customer evaluations of the quality of service delivered by my business. 2.My business asks our external customers to evaluate the quality of work and service"			
Q22f	In my working community the more experienced co-workers show/teach their younger colleagues the working methods				**Team climate:** the people in my team are willing to help each other, even if it means doing something outside their usual duties.		
Q6a	What is the atmosphere like in your working community? Encouraging and supportive of new ideas			**Team climate:** Most of the time it is safe to speak up in my team			

Table 18. Item level mapping of the measurement items used to define the Workplace Climate factor in employee data and chosen studies in the literature.

2007 nr.	Employee data questions	Ryan et al. 1996	Hallowell et al. 1996	Schneider et al. 1998	Gelade et al. 2005	Schneider et al. 2003	Salanova et al. 2005
Personal engagement							
Q9	I appreciate my own work						**Engagement/ vigor:** When I get up in the morning, I feel like going to work
Q10	My work is meaningful		**Goal alignment:** My work is important to my company		**Commitment:** I am proud to be associated with his company	**Satisfaction with job fulfillment:** My work gives me a feeling of personal accomplishment	**Engagement/ dedication:** I find the work that I do full of meaning and purpose.
Q8	I am satisfied with my present job	**Job/company satisfaction:** I look forward to coming to work	Service capability: How satisfied are you with your job?			**Satisfaction with job fulfillment:** I like the kind of work I do	**Engagement/ dedication:** I am enthusiastic about my work
Q17	I can use my knowledge and skills at work to their full extent					satisfaction with job fulfillment: my job makes good use of my skills and abilities	
Q18	My competence meets the requirements of my job						
Q11	I find pleasure in doing my present job well		**Goal alignment:** I have a pesonal interest in seeing that my company does well.	**Commitment:** Taking everything into account, how satisfied are you with your company as an organization to work for?		**Overall job satisfaction:** Considering everything, how satisfied are you with your job?	
Q1	How varied or monotonous is your work?						

Table 19. Item level mapping of the measurement items used to define the Personal Engagement factor in employee data and chosen studies in the literature

		Parasuraman et al. 1988	Hellier et al. 2003	Cronin et al. (2000)	Salanova et al. 2005	Hansen et al. 1999
Reliability						
F04	The quality of maintenance work is good.			**Service quality:** Generally, the employees provide service reliably, consistently and dependably.	**Excellent performance:** Employees deliver an excellent service quality that is difficult to find in other organizations (excellent performance).	
F03	The behaviour and attitude of engineers is good.	**Realiability:** Employees of XYZ are polite. XYZ does not have your best interests at heart. (-) Employees of XYZ are not always willing to help customers. (-)	**Perceived quality:** The behavior of the company employees gives me confidence	**Service quality:** Generally, the employees are courteous, polite and respectful.	**Excellent performance:** Employees do more than usual for customers (excellent performance).	
F01	The service engineers are competent.			**Service quality:** Generally, the employees are competent		
F05	Wärtsilä gives you satisfactory status reports of ongoing maintenance work.	**Realiability:** When XYZ promises to do something by a certain time, it does so.	**Perceived quality:** The company employees tell me exactly when services will be performed			
F06	The maintenance reports are correct and useful.	**Realiability:** XYZ keeps its records accurately.				
F02	Service engineers are available when needed.	**Realiability:** XYZ does not tell customers exactly when services will be performed. (-)				
Responsiveness & Empathy						
S09	The Account Manager contacts you often enough.	**Responsiveness:** Employees of XYZ are too busy to respond to customer requests promptly. (-)				

Table 20. Item level mapping of the measurement items used to define the factors in customer data and chosen studies in the literature.

		Parasuraman et al. 1988	Hellier et al. 2003	Cronin et al. (2000)	Salanova et al. 2005	Hansen et al. 1999
S10	The Account Manager informs you enough about different products and services.	**Responsiveness:** Employees get adequate support from XYZ to do their jobs well.			**Empathy:** Employees are able to "put themselves in the customers' place".	**Empathy:** Being recognized by suppkier's sales people a regulat customer. (Empathy)
S11	The Account Manager listens to your opinions and pays attention to your needs.	**Empathy:** Employees of XYZ are not always willing to help customers. (-) XYZ does not give you individual attention. (-)	**Perceived quality:** The company employees are always willing to help me	**Service quality:** Generally, the employees listen to me and speak in a language that I can understand. Generally, the employees make the effort to understand my needs.	**Empathy:** Employees understand specific needs of customers.	**Empathy:** Supplier understands your needs. Empathy by the supplier for your needs.Supplier anticipating your needs (Empathy)
S12	The Account Manager ensures that your problems and inquiries are taken care of.	**Empathy:** You can trust employees of XYZ			**Empathy:** Employees are able to "tune in" to each specific customer.	**Empathy:** Supplier's salesperson giving individualized attention. (Empathy)
S01	Wärtsilä understands your business.					
Assurance						
S04	Wärtsilä is reasonable when handling complaints and claims.					
S02	Wärtsilä takes responsibility for its promises and actions.	**Assurance:** When XYZ promises to do something by a certain time, it does so.				**Assurance:** Supplier handels problems professionally and fairly.
S03	Wärtsilä is open and sincere in its communication.					
T05	The response to technical inquiries is thorough and prompt.					**Assurance:** The knowledge and skills of sales personnel.
T04	Technical problem solving is efficient.					
S05	Wärtsilä actively suggests ways to improve the performance of the installation.					

Table 18 presents the measurement items of the empirical data for the Workplace Climate factor. Measurement items impacting on Workplace Climate relate to employees' perceptions which they recognize as important in their workplace. Workplace Climate is affected by employees' observations, such as participation in workplace development is encouraged, suggestions for improvements are implemented and feedback and ideas are obtained from clients. Additionally, more experienced workers teach younger collegues the working methods. It is suggested that Workplace Climate corresponds with the Climate for Employee Well-Being construct in the linkage model presented by Bowen (2008). The fourth factor, Personal Engagement, was named according to a definition provided by Kahn (1990:694). Measurement items in the research data and Kahn's definition of Personal Engagement have similarities. All six studies presented in Table 19 use different descriptions of this concept. Ryan et al. (1996) apply Job/company satisfaction, Hallowell et al. (1996) use Goal Alignment and Service Capability, Gelade et al. (1998) employ Commitment, whereas Schneider et al. (2003) prefer Satisfaction with Job Fulfillment and Overall Job Satisfaction. Salanova et al. (2005) bring up two aspects of Work Engagement, Vigor and Dedication.

Measurement items impacting on the Personal Engagement factor in Table 19 consist of employees' perceptions related to their attitudes towards their work. Measurement items affecting the Personal Engagement factor include features like, I appreciate my own work, my work is meaningful, I am satisfied with my present job and I find pleasure in doing my present job well. Additionally, the Personal Engagement factor is impacted on by employees' perceptions of their ability to use their knowledge and skills to their fullest extent as well as their perceptions concerning how well their competencies meet the requirements of their job. Personal Engagement is therefore to be considered as equal to the Employee Displayed Attitudes and Behaviors construct in the linkage model in Figure 12.

Operationalization of the Customer Data

A similar process was conducted to operationalize the customer data. The studies selected to link the customer data with the existing literature were: Parasuraman et al.(1988), Hellier et al. (2003), Cronin et al. (2000), Salanova et al. (2005) and Hansen et al. (1999). The green fields in Table 20 present the concepts and measurement items used in these five studies.

As depicted in Table 20, similar concepts exist in several customer quality studies; therefore the naming of the factors in customer data was easy. The three factors were named: Responsiveness and Empathy, Reliability and Assurance.

To summarize the operationalization phase, the 20 employee data factors and five customer data factors, from the explorative factor analyses presented in Table 11 and 12, are positioned in the linkage model depicted by Bowen based and presented in Figure 19.

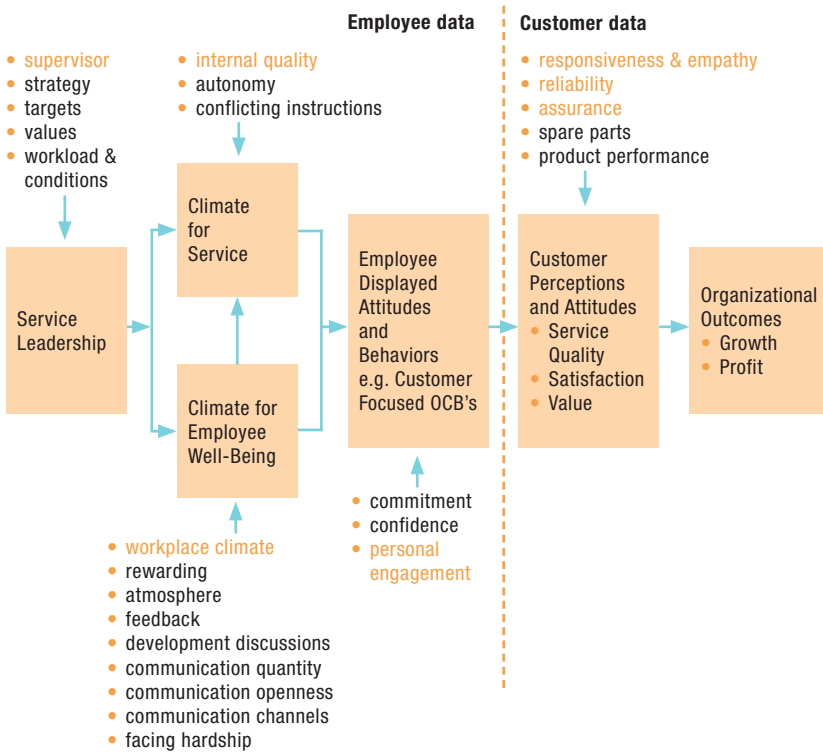

Figure 19. Factors from the research data are placed into the linkage model depicted by Bowen (2008)

In Figure 19, each factor in the research data has been positioned into a certain construct in the linkage model described by Bowen (2008), based on the conceptualization presented in Chapter 3. Four employee factors which passed the aggregation justification phase in Section 5.3.1 and three chosen customer factors are colored orange. These seven, orange coloured factors outline the linkage model to be tested in Section 5.5.

The next section presents these seven factors in detail with the actual measurement items used in the employee and customer survey data. Each factor is presented with relevant reflections on existing literature.

Factors in the Employee Data

The measurement items from the empirical data are listed below based on EFA factor loadings. Those measurement items marked with orange indicate that during the confirmatory factor analyses (CFA) phase they were deleted from the final path modeling. The CFA process is explicated in detail in Section 5.4.

As discussed earlier, the four remaining employee factors are Supervisor, Internal Quality, Workplace Climate and Personal Engagement. In the next paragraph a short description of the factor and the measurement items describing them are presented together with related literature.

The Supervisor factor represents the *Service Leadership* construct in the linkage model depicted by Bowen (2008). The Supervisor factor contains elements that reflect what Ryan et al. (1996) define as supervision, Hallowell et al. (1996) define as management, Schneider et al. (1998) define as work facilitation, Gelade

et al. (2005) define as team climate and Schneider et al. (2003) define as satisfaction with empowerment.

Supervisor factor measurement items from the empirical data:

Q37 My closest superior acts fairly and objectively
Q31 My closest superior supports and helps me when needed
Q61 How satisfied are you with the communication with your immediate superior about your daily work?
Q36 I can trust what I have agreed with my superior
Q32 My closest superior participates adequately in developing and organizing my everyday work
Q38 I am treated fairly and objectively in my working community
Q39 All employees are treated fairly and objectively in my working community
Q40 Everyone is respected and trusted in my working community
Q62 How satisfied are you with the communication with local Company management about your daily work?

Internal Quality represents the *Climate for Service* construct in the linkage model as shown in Figure 19. Service orientation, such as focus and commitment to create high service quality for customers, is in a focal role.

Several studies define concepts related to Internal Quality concepts with different names. Gelade et al. (2005) apply *job enablers*, Ryan et al. (1996) use the term external customer focus, Hallowell et al. (1996) use service capability and Schneider et al. (1998, 2003) emphasize Internal Quality as interdepartmental service and satisfaction with work group. Salanova et al. (2005) designate the same concept as service climate. In this study the factor representing climate for service is named Internal Quality based on the description suggested by Hallowell et al (1996). They (Hallowell et al., 1996:23) claim that there are eight components required to build the service capability that enables service employees to provide a high quality service that creates customer satisfaction. These eight internal service quality components are: tools, policies and procedures, teamwork, management support, goal alignment, communication, rewards and recognition. Measurement items that measure Internal Quality are essential when striving for a high performing service organization.

Internal Quality factor measurement items from the empirical data:

Q27 Everyone takes responsibility for correcting errors and defects in my working community
Q28 Everyone takes responsibility for achieving our common goals in my working community
Q26 Teamwork is not evaded in my working community
Q24 My working community produces good quality services/products
Q25 My colleagues support and help me when needed
Q23 My working community delivers services/products on time
Q59 In our working community we learn from mistakes

The Workplace Climate factor represents the *Climate for Employee Well-being* construct in the linkage model presented in Figure 19. Gelade et al. (1995) define

Workplace Climate related concepts as support climate and team climate. Team climate relates closely to workplace relationships such as openness, respect, teamwork, high morale and atmosphere. Support climate, in turn, consists of concepts related to managerial and organizational support such as target setting, communication, fairness and management involvement and support for individual development. Ryan et al. (1996) define this concept by quality emphasis, Hallowell et al. (1996) define it as management and Schneider et al. (1998) define Workplace Climate through managerial and customer feedback. Workplace Climate factor is named applying Gelade et al.'s (2005) study.

Workplace Climate factor measurement items from the empirical data:

Q22b	In my working community we discuss the work targets and the means to achieve them
Q22a	In my working community we discuss the work tasks together
Q22c	In my working community participation in workplace development is encouraged
Q22d	In my working community suggestions for improvements are implemented
Q22e	In my working community feedback and ideas are obtained from clients
Q22f	In my working community the more experienced co-workers show/teach their younger colleagues the working methods
Q20	I am encouraged to develop my professional skills
Q6a	What is the atmosphere like in your working community? Encouraging and supportive of new ideas

The Personal Engagement factor represents the *Employee Displayed Attitudes and Behaviors* construct in the linkage model in Figure 19. The factor, Personal Engagement measures the level of an individual's commitment to organizational target setting. This factor also measures how individuals perceive the world around them, their willingness and capability to achieve organizational goals as well as how the organization's human resource management (HRM) supports individual development. Many researchers have found a link between frontline employees' perceptions of HRM practices and their behavioral choices (Gelade et al., 2005; Hallowell et al., 1996; Ryan et al., 1996). The name of this factor is applied from the definition offered by Kahn.

> Personal Engagement as the harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances. Kahn (1990:694)

Personal Engagement factor measurement items from the empirical data:

Q9	I appreciate my own work
Q10	My work is meaningful
Q8	I am satisfied with my present job
Q17	I can use my knowledge and skills at work to their full extent
Q18	My competence meets the requirements of my job
Q11	I find pleasure in doing my present job well

Q19	My work offers me possibilities for personal growth and development
Q1	How varied or monotonous is your work?
Q4	Is your work appreciated in your working community?

In the next section the factors in the customer data are explained through respective literature references.

Factors in the customer data

Factor analyses (EFA) of customer satisfaction data suggested five factors; Responsiveness & Empathy, Reliability, Spare Parts, Product Performance and Assurance. As mentioned before, only three of them are used in the theory testing phase of this study. These three factors are Responsiveness and Empathy, Reliability and Assurance. The assumption made in this study is that the other two factors, Spare Parts and Product Performance describe more accurately the technical product performance and spare parts availability, which are not directly impacted on by the two employee groups, account managers and field service engineers, involved in this study. The *Customer perceptions and attitudes* construct in the linkage model in Figure 19 is explicated using these three factors from the customer data.

In the literature, *responsiveness* is defined by Hansen et al. (1999:121) as the willingness to help customers and provide prompt service. Hansen et al. (1999) define *empathy* via customers' evaluation of a caring and individualized attention of employees.

Measurement items defining *Responsiveness & Empathy* reflect customers' perceptions of account managers' attitudes and behaviors, as can be seen in the measurement items below. Thus, in the theory testing phase, the hypotheses are created based on the assumption that account manager data has a relationship with two customer factors: Responsiveness and Empathy and Assurance. Most often it is the case that each customer has a dedicated account manager from the Wärtsilä local country organization.

Responsiveness & Empathy factor measurement items from the empirical data:

S09	The Account Manager contacts you often enough.
S10	The Account Manager informs you enough about different products and services.
S11	The Account Manager listens to your opinions and pays attention to your needs.
S12	The Account Manager ensures that your problems and inquiries are taken care of.
S01	Wärtsilä understands your business

Measurement items defining the *Reliability* factor reflect customers' perceptions of field service engineers' competencies, performances and behaviors, as can be seen in the measurement items below. In the theory testing, the hypothesis is that a relationship between field service employee data and Reliability and Assurance in customer data exists. Reliability describes employees' ability to perform the promised service dependably and accurately (Cronin Jr, Brady, & Hult, 2000; Hellier et al., 2003; Salanova et al., 2005).

Reliability factor measurement items from the empirical data:

F04 The quality of maintenance work is good.
F03 The behavior and attitude of engineers is good.
F01 The service engineers are competent.
F05 Wärtsilä gives you satisfactory status reports of ongoing maintenance work.
F06 The maintenance reports are correct and useful.
F02 Service engineers are available when needed.
T02 The Service Bulletins are understandable and useful

Assurance is the knowledge and courtesy of employees and their ability to inspire trust and confidence within customers (Hansen et al., 1999). Hennig-Thurau et al. (2004) found evidence that trust, commitment and relationship quality are the key drivers for customer loyalty and retention.

Assurance factor measurement items from the empirical data:

S04 Wärtsilä is reasonable when handling complaints and claims.
S02 Wärtsilä takes responsibility for its promises and actions.
S03 Wärtsilä is open and sincere in its communication.
T05 The response to technical inquiries is thorough and prompt.
T04 Technical problem solving is efficient.
S05 Wärtsilä actively suggests ways to improve the performance of the installation.

5.3 Model and Hypotheses for Theory Testing

This section presents the model that encapsulates the links between employees' perceptions of their organization and customers' perceptions of service quality provided by employees. In the previous section, the factors in the empirical data were named for testing and positioned in the linkage model depicted by Bowen (2008) (figure 19) based on the conceptualization in Chapter 3 and the operationalization of the survey data in Section 5.2.

Figure 20 presents the linkage model to be tested using factors from the empirical data. Seven hypotheses H1-H7 were created to examine the linkages between employee and customer perceptions. The first research question (RQ1) raised an interest in understanding whether the type of interactions would have an impact on the structure of the linkage model. Thus, the linkage model in Figure 20 will be tested using data from two employee groups having a different type of interaction with customers. Additional hypotheses were formulated to analyze the correlations between employee and customer data. Because these hypotheses refer to correlation analysis, I call them C1 and C2.

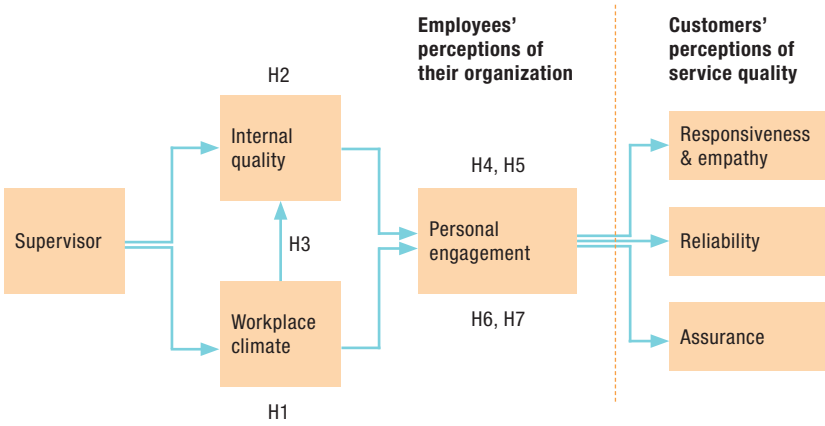

Figure 20. Linkage model and hypotheses for theory testing in B-to-B context.

Figure 20 shows seven hypotheses formulated to test the linkage model with the empirical data of this thesis. H1, H2, H3 are common to both employee groups, account managers and field service engineers, whereas H4, H5, H6, H7 make a reference to a specific employee group, either account managers or field service engineers. Before the actual testing of the linkage model takes place, correlation analyses using data from both employee groups will be conducted between employee data. The hypotheses for the correlation analyses are formulated as follows.

Hypotheses for correlation analyses:

Hypothesis C1: Account managers' perceptions of their organization have a positive relationship with two customer quality factors: Responsiveness and Empathy and Assurance. (section 5.4.2)

Hypothesis C2: Field service engineers' perceptions of their organization have a positive relationship with the Reliability factor in customer data. (section 5.4.3)

Seven hypotheses are formulated for testing of the linkage model in Figure 20:

Hypotheses H1, H2 and H3 cover the testing of the linkages between factors in the employee data, as described in Figure 20. These hypotheses are common for both employee groups: account managers and field service engineers.

Hypothesis 1: Account managers' and field service engineers' perceptions of their Supervisors, impact on their perceptions of Workplace Climate which predict their Personal Engagement.

Hypothesis 2: Account managers' and field service engineers' perceptions of their Supervisors, impact on their perceptions of Internal Quality which predict their Personal Engagement.

Hypothesis 3: Workplace Climate has a direct and positive relationship to Internal Quality as perceived by account managers and field service engineers.

Hypotheses H4, H5, H6 and H7, in turn, are formulated to examine how the linkages between employee and customer perceptions differ for employee groups having different types of interactions with customers. These hypotheses are created based on the description of the measurement items in the customer data. Measurement items assessing Responsiveness and Empathy in the customer data reflect to customers' perceptions of account managers' attitudes and behaviors. Similarly, measure items assessing Reliability in the customer data reflect to customers' perceptions of field service engineers' behaviors and attitudes. In addition, it is hypothesized that both employee groups have an impact on customers' perceptions of Assurance provided by employees.

Hypothesis 4: Account managers' perceptions of Internal Quality impact on their Personal Engagement which predicts customers' quality perceptions of account managers' Responsiveness and Empathy and Assurance.

Hypothesis 5: Field service engineers' perceptions of Internal Quality impact on their Personal Engagement which predicts customers' quality perceptions of field service engineers' Reliability and Assurance.

Hypothesis 6: Account managers' perceptions of Workplace Climate impact on their Personal Engagement which predicts customers' quality perceptions of account managers' Responsiveness and Empathy and Assurance.

Hypothesis 7: Field service engineers' perceptions of Workplace Climate impact on their Personal Engagement which predicts customers' quality perceptions of field service engineers' Reliability and Assurance.

An additional hypothesis was created to examine how the empirical data of this thesis supports the changing of the sequences of two constructs, Personal Engagement and Workplace Climate, in the linkage model in Figure 20.

Hypothesis 8: Account managers' and field service engineers' perceptions of Internal Quality and their Personal Engagement impact on their perceptions of Workplace climate which predicts customers' perceptions of service quality.

The following section describes the validation of the research data using confirmatory factor analysis (CFA) and correlation analysis.

5.4 Validation of the Research Data

Validation of the research data was performed using two analysis methods, confirmatory factor analysis and correlation analysis. Data validation as well as theory testing was conducted for two employee groups, account managers and field service engineers. Account managers are involved in the sales phase, whereas field service engineers support customers on site by providing maintenance support for the engines and other equipment provided by Wärtsilä.

Additionally, the data aggregation justification in Section 5.1.3 proposed differences in how well individual account managers and field service engineers

agreed on a given measure with those within the same employee group. Due to the analysis shown in Section 5.1.3 two factors, Autonomy and Rewarding were left out from the theory testing phase. Measurement items in the Responsiveness and Empathy factor assess customers' perceptions of account managers' behaviors whereas the Reliability factor reviews customers' perceptions of field service engineers' behaviors. However, measurement items assessing customers' perceptions of Assurance relate to both of these employee groups.

5.4.1 Confirmatory Factor Analysis (CFA)

This section presents in more detail the steps taken in the confirmatory factor analysis (CFA).

The process started from the Explorative Factor Analysis (EFA) output of four factors: Supervisor, Internal Quality, Workplace Climate and Personal Engagement. The analysis was conducted using Amos 17.0 software utilizing the maximum likelihood method. The target of this analysis was to create a latent variable structure that is concurrent with existing theory; the linkage model in Figure 2 depicted by Bowen (2008). Furthermore, the CFA process improves the factor solution created in the EFA phase.

An indication as to whether a question can relate to several factors can be determined from the error loading (the circles associated with the latent variable in figure 21). If the error loading is bigger than the actual latent variable loading, this question should be deleted. Based on this rule, eight changes were carried out in the account managers' data. The CFA modification indices suggested that the specific question could be applied to several factors or the measurement item did not reflect the content of the factor. The deletion of a question was correct if the model fit values (RMSEA and CFI) were improved after deletion. The list in Table 21 shows those measurement items that were deleted during the CFA process from the employee data.

Table 21. List of measurement items dropped out during the CFA analysis.

Measurement item	Factor	Comment
Q22a	Workplace climate	Almost similar than Q22b
Q20	Workplace climate	Could belong to several factors
Q25	Internal quality	Could belong to several factors
Q19	Personal engagement	Could belong to several factors
Q4	Personal engagement	Could belong to several factors
Q39	Supervisor	Measurement item does not reflect the content of the factor
Q40	Supervisor	Measurement item does not reflect the content of the factor
Q62	Supervisor	Measurement item does not reflect the content of the factor

The measurement items listed in Table 21 were not included in the next phase; path modeling. The final outcome of the CFA analysis for the account manager data is presented in Figure 21 and for field service engineer data in Figure 22.

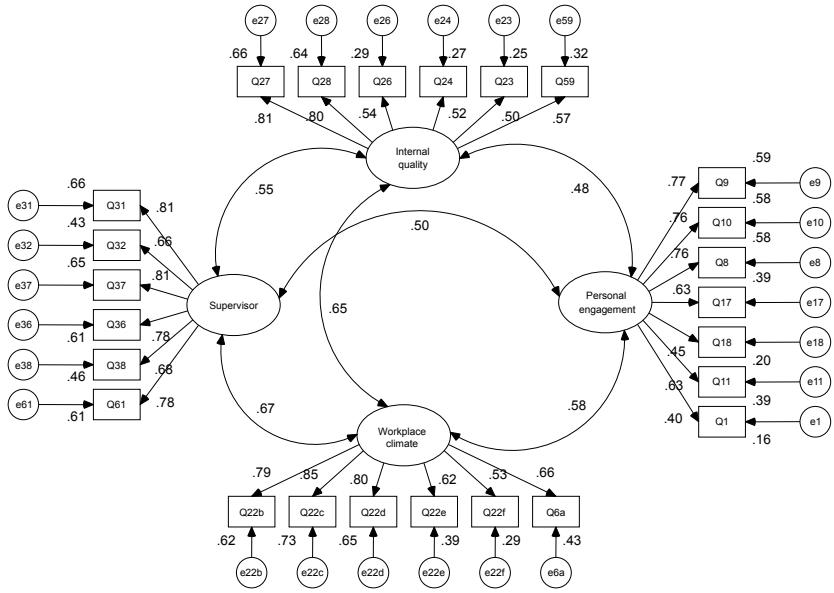

Figure 21. CFA model for account manager data (aggregated business unit data).

The equivalent CFA model for field service employee data is presented in Figure 22.

The original measurement items from EFA were addressed as latent variables (boxes in figures 21 and 22) according to each factor. In Figures 21 and 22, the values in the two-way arrows present the covariance between these two variables. Covariance measures how strongly these two factors vary in accordance with each other. The fit index analysis for the CFA model in Figure 21 is presented in Table 22. Hair (2006:753) recommends that RMSEA values should be < .07 and CFI values >.92.

Table 22. CFA model fit statistics for account manager data.

Chi-square	1079.17
N	614
Degrees of freedom	269
CFI	.89
RMSEA	.07

Table22 shows the fit index RMSEA just at the recommended level whereas CFI is slightly below, however, the model was approved.

A similar CFA model for field service employee data is presented in Figure 22.

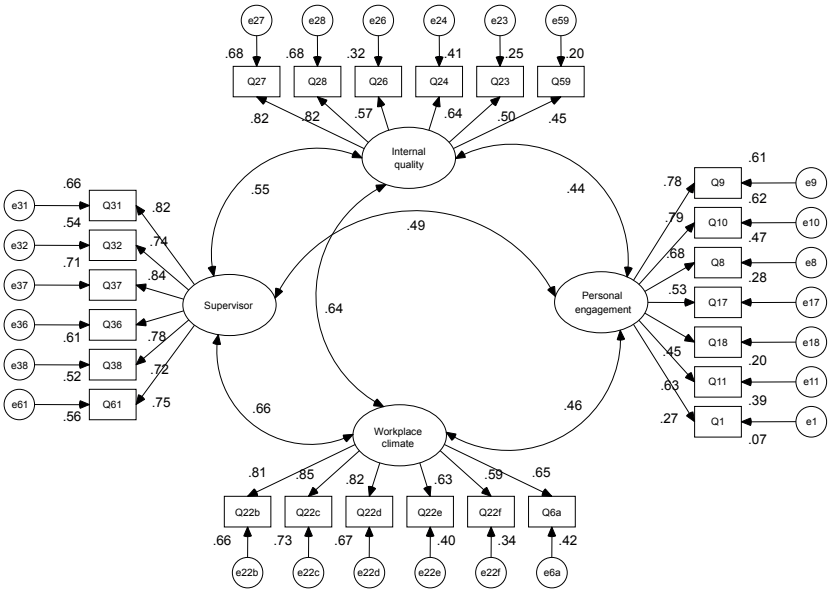

Figure 22. CFA model for field service employee data (aggregated business unit data).

The fit index analysis for field service data resulted in RMSEA .06 and CFI .91; as shown in Table 23. Compared with Hair's (2006) recommendation, RMSEA is in the recommended limit and CFI is very close to the recommendation.

Table 23. CFA model fit statistics for field service employee data.

Chi-square	2224.59
N	1789
Degrees of freedom	267
CFI	.91
RMSEA	.06

A summary of the covariances from Figures 21 and 22 is presented in Table 24 showing only minor differences between these two samples. As can be seen in Table 24, all variables in both employee data have a strong co-variance.

Table 24. Summary of individual level covariances in CFA using standardized estimates.

Covariance between			Account managers	Field service
Supervisor	<->	Internal Quality	.55	.55
Supervisor	<->	Workplace Climate	.67	.66
Supervisor	<->	Personal Engagement	.50	.49
Workplace Climate	<->	Internal Quality	.65	.64
Workplace Climate	<->	Personal Engagement	.58	.46
Internal Quality	<->	Personal Engagement	.48	.44

The biggest difference found in Table 24 is between Workplace Climate and Personal Engagement. In the account manager data, this relationship is stronger than in the field service employee data.

In summary, the CFA models for both employee groups show that all the factor loadings are higher than the errors, which indicates that the latent variable belongs to the factor in question. Further to this, the covariances between the factors in the employee data are significant.

The measurement models thus fulfill the requirements for adequate fit, in that the unexplained variance within factors, as measured with RMSEA and CFI index, is either above or just below Hair's (2006:753) recommendation.

Confirmatory Factor Analysis for Customer Data

Confirmatory factor analysis for customer data analysis for customer data is presented in Figure 23.

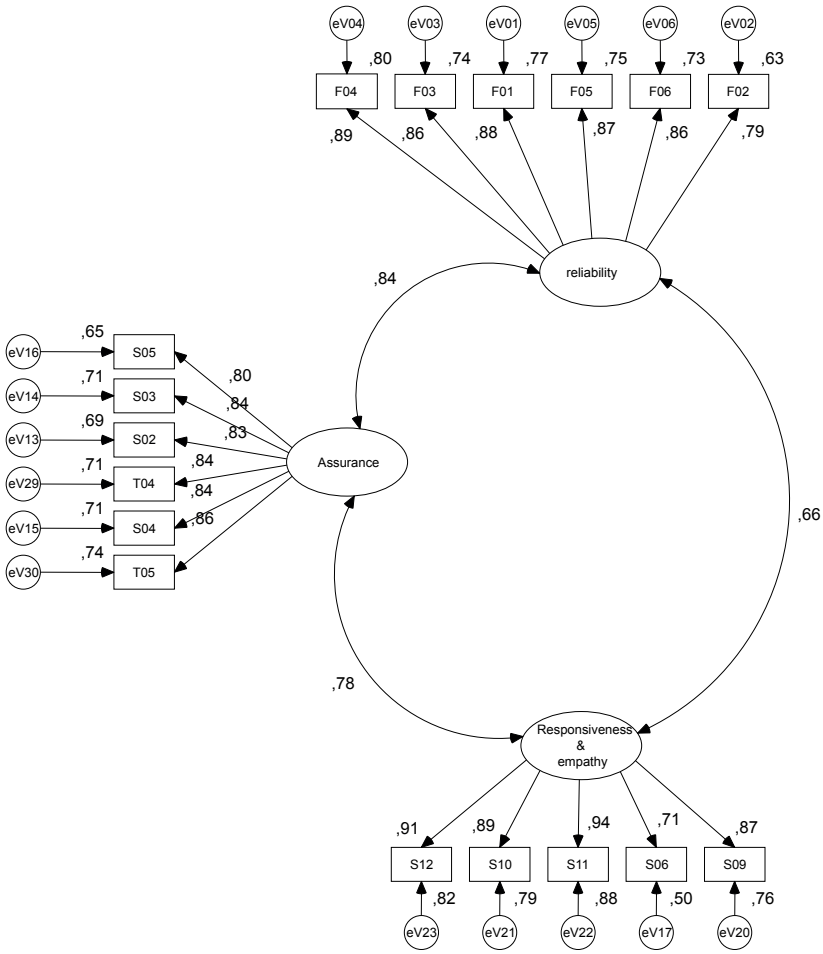

Figure 23. CFA model for customer data (aggregated business unit data).

The fit index analysis for Customer data in RMSEA .07 and CFI .93; as shown in Table 25. Compared with Hair's (2006) recommendation, both RMSEA and CFI are within the recommended limits.

Table 25. CFA model fit statistics for customer data.

Chi-square	6657.5
N	1757
Degrees of freedom	232
CFI	.93
RMSEA	.07

In the next section correlation analysis will be presented separately for both employee groups.

5.4.2 Account Managers' Impact on Customers' Perceptions of Service Quality

The linear relationship[19] between customer quality factors and employee factors were first examined with non-parametric correlations of factors. The correlations were calculated using the Kendall tau b method. Kendall tau b tests the strength of linear associations between factors and is commonly used in organizational surveys. The survey data was collected on an individual employee and customer level but the data sets could be combined only on a company level, therefore the aggregation justification was analyzed in Section 5.1.3.

Correlation analyses were carried out to examine the relationships between the employee and customer data. Employee data collected during 15.-6.4.2007 was compared to customer data collected between 7.4.2007 and 31.12.2008.

Hypothesis C1: Account managers' perceptions of their organization have a positive relationship with two customer quality factors: Responsiveness and Empathy and Assurance.

Responsiveness refers to an account manager's willingness to help customers and provide prompt service. Empathy refers to caring and individualised attention to the customer. Assurance measures the knowledge and courtesy of employees and their ability to inspire trust and confidence within customers.

Table 26 presents how account managers' perceptions of their Supervisor, Internal Quality, Workplace Climate and their Personal Engagement are transmitted to customers' quality perceptions. The number of companies having both data is 38.

19 To examine the linearity in the correlation analysis, scatter plot analyses were conducted. See an example in Appendix 9.

Table 26. Correlation analysis between account managers data and customer data[20].

Account managers (N=38)		1	2	3	4	5	6	7
1.	Supervisor	-						
2.	Internal Quality	.46***	-					
3.	Personal Engagement	.61***	.50***	-				
4.	Workplace Climate	.55***	.49***	.69***	-			
5.	Reliability	.17	.18	.12	.24*	-		
6.	Responsiveness and empathy	.18	.19	.13	.27**	.59***	-	
7.	Assurance	.16	.22*	.16	.28**	.66***	.62***	-

Two-tailed test *p<.1, **p <.05, *** p<.01

The correlations in Table 26 show that all inter correlations for both employee and customer data are significant at the p<.01 level. The single most striking observation in Table 26 is that only two positive correlations between account manager data and customer data out of twelve are significant at p <.05. Additionally, two positive correlations are significant at p <.1. Furthermore, three out of four significant correlations are between Workplace Climate (employee data) and three customer quality factors and not between Personal Engagement and customer data, as hypothesized in the linkage model in Figure 20.Therefore, additional analysis with path modeling was conducted to assess the relationship between account managers' and customers perceptions. This is detailed in the next section.

In Table 26, a strong positive linear relationship was observed between the Workplace Climate factor (employee data), Responsiveness and Empathy (r= .27) and Assurance (r= .28). This can be interpreted that account managers echo their feelings about their Workplace Climate in their interaction with customers. In addition, a correlation between Workplace Climate and customer perceived Reliability (r= .24) is significant at the level p<.1.

Furthermore, a significant correlation (r= .22, at the level p<.1.) exists between Internal Quality (employee data) and customer perception of Assurance. Internal Quality is measured by the feelings that employees have towards their jobs, colleagues and organizations. This implies that when account managers feel that they receive the needed support from their colleagues, the better he or she can inspire trust and confidence within customers. The results presented in Table 26 raised a concern; why three out of four of the positive correlations were found between Workplace Climate (employee data) and customer factors and not between Personal Engagement and customer factors as proposed in the linkage model presented in Figure 20.

Workplace Climate, as operationalized in Section 5.2, reflects the characteristics of the organizational climate, such as support climate and team climate. Workplace Climate signals the feelings concerning how employees recognize the

20 The justifications to use correlations analysis instead of regression analyses were several: 1. The explaining (=independent) variables 1-4 in Table 26 are correlated with each other and regression analysis would not be very useful. 2. Customer perceptions may also impact on employee perceptions, therefore in this case regression analysis would not either be suitable. 3. The small sample size also justifies the use of correlation analysis. (Hair, 2006)

support they get from their managers, such as, does the manager engage employees, inform them of matters affecting them and is the manager interested in improving work arrangements. Workplace Climate also reflects how colleagues help and support each other. For the most part a supervisor's customer orientation is important in creating a Workplace Climate in a service business.

In terms of the linkage model depicted by Bowen (2008), Workplace Climate corresponds with the climate for employee well-being, which impacts on the climate for service. Climate for employee well-being is linked to climate for service. This result is significant from the linkage research point of view. In the linkage model in Figure 20, based on the linkage model depicted by Bowen (2008), Workplace Climate is hypothesized as impacting on Internal Quality and Personal Engagement. Furthermore it is hypothesized that Personal Engagement predicts customer quality perceptions. The result shown in Table 26 suggests that employees' perceptions of Workplace Climate is more important that their Personal Engagement in the prediction of customers' perceptions of service quality.

It is apparent from the results shown in Table 26 that Workplace Climate and Internal Quality within account management is the key to satisfied customers in a B-to-B environment. The correlation result observed between Internal Quality and Assurance indicates that elements in Internal Quality support account managers to better serve their customers. When an account manager trusts that Internal Quality is high, he/she may reproduce it in the manner he/she provides accuracy in delivery times and service quality.

The first hypothesis was partially supported, as three out of four significant correlations were found between account manager data and the expected customer quality factors, i.e. Responsiveness and Empathy and Assurance. However, the relationship between account managers' perceptions of Workplace Climate and customers' perceptions of Reliability factor was not hypothesized. This result may suppose that customers when perceiving Reliability connect it to the overall performance delivered by Wärtsilä employees.

5.4.3 Field Service Engineers' Impact on Customers' Perceptions of Service Quality

Similar correlation analysis for field service employee data is presented in Table 27. Field service engineers' key role is to perform the promised technical service dependably and accurately and build reliability within customers.

Hypothesis C2: Field service engineers' perceptions of their organization have a positive relationship with the Reliability factor in customer data.

Reliability measures how accurately and well a field service engineer has performed the promised service.Table 27 shows the correlations among the twelve measurements of customer satisfaction. Unlike the account managers, the corresponding analysis for field service engineers includes many significant positive correlations. Again all inter correlations both in field service employee and customer data are significant at the level $p<.01$. Only three of the twelve correlations between employee and customer data are not significant.

Table 27. Correlations analysis between field service employee and customer data.

Field service engineers (N=38)		1	2	3	4	5	6	7
1.	Supervisor	-						
2.	Internal quality	.51***	-					
3.	Personal engagement	.32***	.43***	-				
4.	Workplace climate	.62***	.57***	.44***	-			
5.	Reliability	.25**	.22*	.22*	.31***	-		
6.	Responsiveness and empathy	.09	.13	.16	.23**	.63***	-	
7.	Assurance	.24**	.23**	.20*	.31***	.72***	.67***	-

Two-tailed test *p<.1, **p <.05, *** p<.01

Table 27 shows that nine positive correlations out of twelve are significant. Correlations between Workplace Climate and Reliability and Assurance are positive and significant at the level p<.01. Additionally, four positive and significant correlations are at p<.05 and three at p <.1. Unlike the account manager data, two positive and significant correlations exist between Personal Engagement and customer data. Interestingly, all factors in the employee data correlate with two customer factors, Reliability and Assurance. Additionally, Workplace Climate has a positive and significant relationship with Responsiveness and Empathy. Similarly the strong linear correlation between the Supervisor and Reliability (r= .25) and Assurance (r= .24) factors in the customer data are interesting. This result emphasizes the importance of supervision in customer service. The key characteristics in the Supervisor factor are: support, help, trust, fairness and participation in the development and arrangement of everyday work. This result implies that when the field service engineer feels that he/she is fully supported by his/her supervisor, she/he will transfer the same behavior to customers. This spillover effect has been studied for example by Bowen et al. (1999), and can be shown to increase customer quality perceptions, through increased Reliability and Assurance.

Field service engineers' perceptions of Internal Quality has a positive and significant (p<.1) correlation with Reliability (r= .22) as perceived by customers. Internal Quality concerns employees' attitude and commitment towards one another, as well as the willingness to serve and help each other inside the organization. Therefore, the service orientation of the entire organization is an important means to increase Reliability experienced by customers. Personal Engagement has a significant correlation with Reliability (r= .22, p <.1). This finding supports theoretical assumptions of the importance of an individual's own attitudes and emotions in the service business. When engaged, people employ and express themselves physically, cognitively and emotionally. When field service engineers are satisfied and perceive their work as meaningful and positively challenging, they perform better and build reliability among customers. Furthermore, the Workplace Climate factor has a positive and significant correlation with Reliability (r= .31). What is interesting in this data is that Workplace Climate has, as shown in Table 27, a significant and positive correlation with all customer data factors: with Reliability (r= .31), Responsiveness and Empathy (r= .23) and As-

surance (r= .31). The same result was presented for the account managers earlier in Table 26. This stresses the importance of Workplace Climate, as an enabler of positive customer experience in service business.

To summarize[21], a field service engineer's ability to create reliability through their actions on behalf of their customers is based upon the support from their supervisor and peers. Additionally, the Personal Engagement of a field service engineer is important. Reliability is certainly one of the most important factors required to build customer value. In this respect, field service engineers' competencies to perform engine maintenance and their commitment to excellence are key drivers for customer value in a service business. The unexpected result found in Table 27 is that both Personal Engagement and Workplace Climate have significant positive correlations with almost all customer factors. This reflects the importance of organizational climate and its impact on customer perceptions of service quality. As hypothesized, the Responsiveness and Empathy factor does not have a positive correlation with field service employee data, except for Workplace Climate. This is logical and expected; the Responsiveness and Empathy factor describes an account manager's capability to serve the customer not that of a field service engineer.

In summary, the correlation analysis, (presented in Table 27) using field service employee data, show significant correlations between Supervisor, Internal Quality and Workplace Climate and customer perceptions of Reliability and Assurance provided by employees. Correlation analysis underlines significant correlations between employee perceptions of Workplace Climate and customer quality perceptions. This is an important finding in relation to the linkage model described by Bowen (2008). The linkage model created for the theory testing in Figure 20 emphasizes that employee perception of their organization impacts on their Personal Engagement, which in turn predicts customer perceptions of service quality, not on Workplace Climate. In the next section the linkage model presented in Figure 20 is tested using path modeling.

5.5 Linking Employee and Customer Perceptions in a B-to-B Service Business

This chapter presents, using data from a B-to-B context, how employees' perceptions of their organization impact on customers' perceptions of service quality. The opportunity to utilise data from two employee groups, account managers and field service engineers, having different types of interactions with customers, provides the possibility to analyse how the model designed for a B-to-C context behaves in a B-to-B context.

The model presented in Section 5.3 in Figure 20 is based on the conceptualization of the Bowen model in Chapter 3 and the operationalization of the factors in the research data as presented in Section 5.2. As the examining of the linkages between employee and customer perceptions using structural equation modeling (using latent variables) did not provide sensible results, thus path modeling

21 An additional correlation analyses was conducted to analyze how employee perceptions (2007) impacted on two successive customer data samples: customer data II (7.4.2007-8.9.2008) and customer data III (1.10.2008-5.11.2009). These analyses are presented in Appendix 12.

(observed variables) was chosen as the tool to examine multiple equations and their dependence relationships. However, SEM was applied to examine linkages as defined in Figure 20 using only employee data the results of which being presented in Appendices 9 and 10.

Seven hypotheses (see section 5.3) guide the theory testing of the linkage model. The first three hypotheses H1, H2 and H3 have been formed to test the sequential linkages within a service organization. The following four hypotheses H4, H5, H6 and H7 have been formed to support the testing as to whether employees' perceptions of Workplace Climate and Internal Quality predicts their Personal Engagement and whether Personal Engagement predict customers' perceptions of employees capability to express Responsiveness and Empathy, Reliability and Assurance.

The results of the path modeling for account manager data is presented in Figure 24 and for field service engineer data in Figure 25. The analysis was conducted in both cases with standardized estimates using maximum likelihood estimation method (MLE).

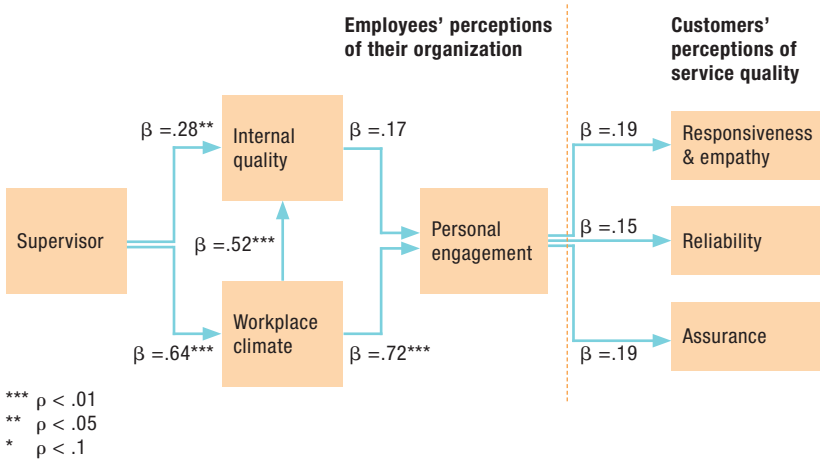

Figure 24. Results from the testing of the linkage model (account managers data, standardized estimate, aggregated business unit level data, N=38).

An interesting observation in Figure 24 is that none of the links between account managers' perceptions of their Personal Engagement and customers' perceptions of service quality provided by account managers are significant.[22] This result could have been predicted based on the correlation analysis shown in Section 5.4.2, where no correlation was found between the Personal Engagement factor and any of the customer quality factors.

Thus, based on the results shown in Figure 24, the hypothesis that account managers' Personal Engagement would predict customers' perceptions of service quality was not proven. This finding could originate from the different business context as the linkage model depicted by Bowen (2008) was originally de-

22 Additional analyses were conducted to indicate if the size of the respondent group, i.e. number of employees and customers per company, would have a statistical impact on the model. The results of these analyses for both models presented in Table 24 and 25 showed that the number of employees and customers in a business unit/company did not have a statistical significance.

veloped to test the impact of employees' perceptions of customers' perceptions of service quality in a B-to-C context.

Conversely, typically in a B-to-C context, front line employees have a physical contact with customers (Schneider et al., 1985), whereas, in this case, account managers in their role of providing sales offers, new solutions and other technical support, contact customers most often through email or phone.

Figure 25 presents the results of the testing of the linkage model using field service data.

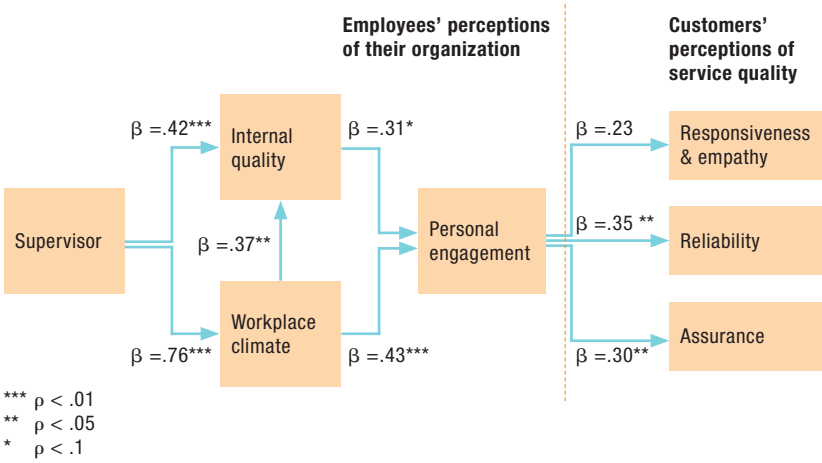

Figure 25. Results from the testing of the linkage model (field service employees, standardized estimates, aggregated business unit level data, N=38).

In contrast to the results shown in Figure 24 for account managers, the results shown in Figure 25 for field service engineer data provide two significant links between field service engineers' perceptions of their Personal Engagement and customers' perceptions of Reliability and Assurance provided by field service engineers.

The fit indices for Figures 24 and 25 are presented in Table 28. Chi-square and CFI indices test how well the model fits the empirical data and an RMSEA index is applied to simple models where the model fits with the data well, which is not the case in this study. The linkage model (figures 24 and 25) consists of several successive dependent variables. The fit indices elucidate how applicable the model is to the research data. According to Hair et al. (2006:116-117), model fit can be considered as acceptable if the RMSEA is below .07 and CFI is above >.92. Both CFI indices shown in Table 28 are above Hair's recommendation and thus suggest that the linkage model is supported by both account manager and field service engineer data. However, the RMSEA index .02 for the field service employee data is at the recommended level (below .07) whereas the RMSEA index .14 for account manager data is not. This could indicate that the account manager data would not fit the linkage model under examination.

Table 28. Fit indices for the linkage models presented in Figure 24 and 25.

	Account manager (figure 24)	Field service (figure 25)
Chi-square	27.439	16.315
N	38	38
Degrees of freedom	16	16
CFI	.96	1.0
RMSEA	.14	.02

A difference test of model gives p= .04 (X^2=27.44, df= 16) for account manager data and p= .43 for field service engineer data (X^2=16.32, df =16). These figures also indicate that the account manager data would not perfectly fit the linkage model whereas the model fits better for the field service engineer data.

Let us now further analyze the results provided in Figures 24 and 25 using the hypothesis presented in Section 5.3. Each of the hypotheses is analyzed in the following paragraphs concurrently for both employee groups.

Hypothesis 1: Account managers' and field service engineers' perceptions of their Supervisors impacts on their perceptions of Workplace Climate which predict their Personal Engagement.

Figures 24 and 25 show that employees' perceptions of their Supervisors impact on their perception of Workplace Climate which predicts their Personal Engagement.

Additionally, the direct links between Supervisor and Workplace Climate are positive and significant, in both account manager data .64 (p<.01) and in field service data .76 (p<.01). The direct links between Workplace Climate and Personal Engagement are also positive and significant at the level p<.01 in both employee groups (account managers .72 and field service engineers .43).

This result is supported by studies presented by Schneider et al. (2002). Their research provides evidence that high customer satisfaction can be expected when employees feel that service quality is genuinely in the management focus.

Hypothesis 2: Account managers' and field service engineers' perceptions of their Supervisor impact on their perceptions of Internal Quality which predicts their Personal Engagement.

Figure 25 shows that field service engineers' perceptions of their supervisors' impact on their perceptions of Internal Quality, which predicts their Personal Engagement. Nevertheless, both in Figure 24 and 25 the direct link from Supervisor to Internal Quality is significant. In the account manager data this link is .28 (p< .05) and in the field service data .42 (p<.01). The direct link from Internal Quality to Personal Engagement in field service data is significant (.31) at the level p<.1, whereas the corresponding link in the account manager data is not significant at all.

Hypothesis 3: Workplace Climate has a direct and positive relationship to Internal Quality as perceived by account managers and field service engineers.

Both account managers' and field service engineers' data shows (figure 24 and 25) a positive and significant link between Workplace Climate to Internal Quality. In account manager data the link is .52 ($p<.01$) and in field service data the link is .37 ($p<.05$). In practice this means that employees' perceptions of their Workplace Climate predict the Internal Quality provided by the company. This result is supported in a study by Parker and Axtell (2001) in which they found that employees' empathy and positive perspective taking related to their internal customers had an impact on the overall service provided to external customers.

Hypothesis 4: Account managers' perceptions of Internal Quality impact on their Personal Engagement which predicts customers' quality perceptions of account managers' Responsiveness and Empathy and Assurance.

The results shown in Figure 24 indicate that account managers' perceptions of Internal Quality do not impact on their Personal Engagement, as was the case with field service employees (figure 25).

Hypothesis 5: Field service engineers' perceptions of Internal Quality impact on their Personal Engagement which predict customers' quality perceptions of field service engineers' Reliability and Assurance.

As hypothesized, field service engineers' perceptions of Internal Quality impact on their Personal Engagement and predict Reliability and Assurance as perceived by customers. Further to this, results presented in Figure 25 show that the link between Personal Engagement and Reliability is .35 at the level $p<.05$ and the link between Personal Engagement and Assurance is .30 ($p< .05$). This result is supported by several previous studies (Pugh et al., 2002; Schneider et al., 2005)

Hypothesis 6: Account managers' perceptions of Workplace Climate impact on their Personal Engagement which predicts customers' quality perceptions of account managers' Responsiveness and Empathy and Assurance.

Contrary to the results shown in Figure 25 for field service engineers data, results shown in Figure 24 suggest that account managers' perceptions of Personal Engagement does not have an impact on customers' perceptions of account managers' Responsiveness and Empathy, and Assurance. This finding may indicate that the linkage model designed and tested in a B-to-C context would not be applicable when the physical and psychological closeness does not exist, as is the case with account managers.

Hypothesis7: Field service engineers' perceptions of Workplace Climate impact on their Personal Engagement which predict customers' quality perceptions of field service engineers' Reliability and Assurance.

Results provided in Figure 25 show that field service engineers' perceptions of Workplace Climate impact on their Personal Engagement which predicts customers' perceptions of Reliability and Assurance provided by field service en-

gineers. The link between Personal Engagement and Reliability is significant at the level p<.05 (.35) and the link between Personal Engagement and Assurance is .30 (p< .05).

The results presented in Figure 25 for field service engineer data are exactly as hypothesized (H7). All internal links are significant and the two expected links between Personal Engagement and customers' perceptions of employees' Reliability and Assurance are significant also. As expected, no significant link exists between field service engineers' Personal Engagement and customers' perceptions of field service engineers capability to build Responsiveness and Empathy. This is acceptable, as the Responsiveness and Empathy factor is related to customers' perceptions of account managers' behavior and not to those of field service engineers.

The results presented in Figure 25 for field service engineer data can be confirmed both in regard to the theoretical assumptions as well as in terms of the correlation analysis presented earlier in Table 27. The theoretical assumption refers to the operationalization of customer quality factors presented in Section 5.2. The significant link between Personal Engagement and Reliability β =.35 presented in Figure 25 supports the links defined in the linkage model. Reliability describes an employee's ability to perform the promised service dependably and accurately. The positive and significant link β =.30 between Personal Engagement and Assurance shown in Figure 25 was as expected and was supported by theory. Assurance is the knowledge and courtesy of employees and their ability to inspire trust and confidence within customers.

The unexpected result for account manager data, shown in Figure 24 is that none of the links between account managers' Personal Engagement and customer quality perceptions are significant. This result does not support the postulation of the linkage model. However, at the time of writing to my knowledge this is the first study in a B-to-B context that examines how employees' perceptions of their organization impact on customers' perception of service quality. One reason may be due to the different boundary conditions present in the interactions between customers and field service engineers and account managers (Bacharach, 1989:424; Schneider et al., 1985). Field service engineers work by him/herself at the customer premises and have face-to-face contact with customers, whereas account managers are more often in contact with customers by phone or email. For that reason, the analyses presented in this study suggest that a linkage model appropriate in a B-to-C context applies to the field service engineer data but not to the account manager data. This suggestion is in line with Schneider et al. (1985:424; 1980), who have raised the postulation that physical and psychological closeness of employees and customers i.e. the boundary conditions could play a key role in the structure of the linkage model.

In summary, both the theory testing results and the fit indices presented in Table 28 suggest that the linkage model as described by Bowen applies better to the field service data than to the account manager data. Therefore, a modified linkage model for the B-to-B context will be analyzed in the next section using both account manager data and field service data.

5.6 Modifying the Linkage Model

Additional tests were conducted to examine how the empirical data from two employee groups would be applicable to a modified linkage model.

As was presented earlier in Figure 24, the link between account managers Personal Engagement and customers' perceptions of service quality could not be verified. As discussed earlier in this chapter, specific boundary conditions could determine the linkage model, as theorized earlier by Schneider and Bowen (1985). Considering that this is the first study to test the linkage model based on the depiction of Bowen (2008) in a B-to-B context it may be that the theoretical assumptions in the current literature do not fully support a situation where the employee - customer interaction is not physical. Therefore, a modified model was formed based on the correlation analysis shown in Table 26 between account manager and customer data and in Table 27 for field service engineer and customer data. These correlation analyses demonstrated that both account managers' and field service engineers' perceptions of their Workplace Climate had positive and significant correlations with all customer quality perceptions. Thus, this could indicate that in the linkage model Workplace Climate could be the factor to predict customer quality perceptions.

Furthermore, the discussion in the literature has not been clear regarding as to how employees' perceptions and customers' perceptions are interlinked. The study provided by Schneider et al. (2000) found for example that employee OCB behavior (i.e. Personal Engagement) mediated the relationship between service leadership and customers perceptions of service quality. Personal Engagement, according to Kahn (1990:694) is about "the harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances." Accordingly, it could be expected that Personal Engagement would have an impact on Internal Quality, which according to Schneider et al. (1998, 2003), emphasizes interdepartmental service and satisfaction with work group. In addition, Workplace Climate measures the quality of interactions within the organization and how well individuals are encouraged to participate in the development of their team activities. Thus, it is justified to hypothesize that Personal Engagement would impact on both Internal Quality and Workplace Climate. Consequently, the testing of a modified linkage model might provide statistically significant links between Workplace Climate and customer perceptions of service quality. An additional hypothesis is as follows:

Hypothesis 8: Account managers' and field service engineers' perceptions of Internal Quality and their Personal Engagement impact on their perceptions of Workplace climate which predict customers' perceptions of service quality.

To test the modified linkage model as hypothesized above (H8), path modeling was conducted using the same account manager and field service engineer data and the customer data as was used to provide the results presented in Figures 24 and 25. The modified linkage model using account manager data is presented in Figure 26 where two constructs, Personal Engagement and Workplace Climate, have changed places as compared to the original linkage model.

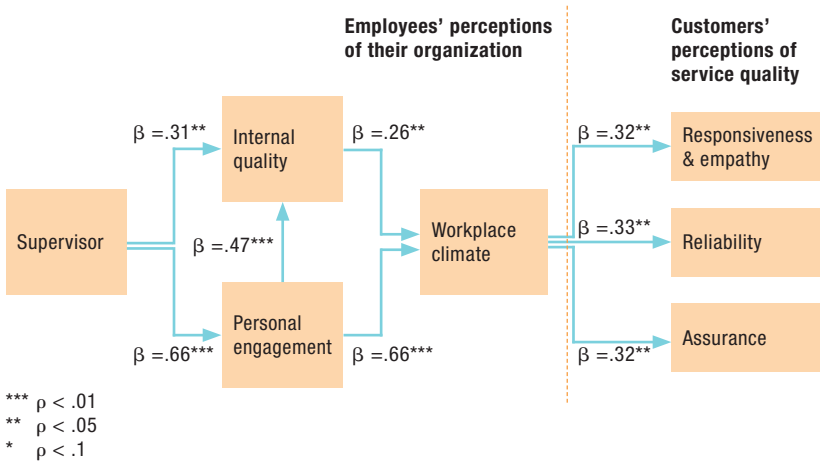

Figure 26. Results from the testing of the modified linkage model (account managers, aggregated business unit level data, N=38).

As hypothesized, the results shown in Figure 26, account managers' perceptions of Internal Quality and their Personal Engagement impact on their perceptions of Workplace Climate which predict customers' perceptions of service quality provided by account managers. Likewise, all the linkages between factors measuring account managers' perceptions of their organization are significant. Salanova et al. (2005) found similar evidence in their research, carried out in hotels, to substantiate the idea that service climate was mediating the relationship between work engagement and customers' perceptions of employees' performance. Even though the definition of service climate (Schneider et al., 1998b) is different to Workplace Climate as used in this study, both can be defined as a collective and shared phenomenon about the organizational climate. Furthermore, Salanova et al. (2005) provide evidence of the mediating relationship between employees' perceptions of their service organization and its managerial effectiveness (i.e. organizational resources) and customers' perceptions of employee performance. However, the results of their (Salanova et al., 2005) study did not support a direct link between work engagement and customers' perceptions of employee performance.

Similar analysis testing the modified linkage model using field service engineer data is presented in Figure 27.

Surprisingly, the result presented in Figure 27 shows that employees' perceptions of their Internal Quality and Personal Engagement impact on their perception of the Workplace Climate, which predicts customers' quality perceptions of Reliability and Assurance provided by field service engineers. Though both account manager and field service engineer data provide significant statistical links between Workplace Climate and customer quality perceptions, the model fit indices shown in Table 29 suggest that only account managers' data is relevant to the modified linkage model.

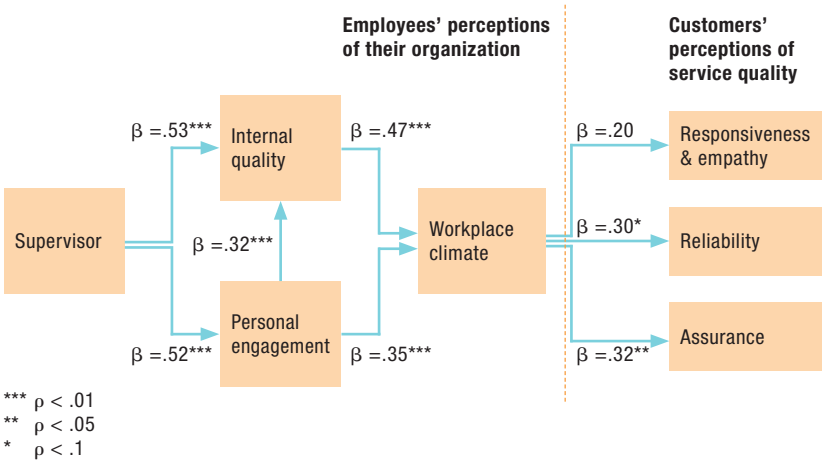

Figure 27. Results from the testing of the modified linkage model (field service employees, aggregated business unit level data, N=38).

Table 29. Fit indices for linkage models presented in Figure 26 and 27.

	Account manager (figure 26)	Field service (figure 27)
Chi-square	23.03	47.67
N	38	38
Degrees of freedom	16	16
CFI	.96	.85
RMSEA	.11	.023

A difference test of model gives p= .11 for account manager data (X2=23.03, df= 16) and p= 5.35 for field service data (X2=47.67, df =16). Unlike in the testing of the original linkage model in Figure 24, the Chi-square supports the modified model in Figure 26 as a fit for account manager data, whereas the model in Figure 27 is definitely not supported by the field service data.

CFI indices support the same conclusion, as the account manager data is above Hair's recommendation and the field service engineer data is not. Nevertheless, the RMSEA index for the field service engineer data (.023) is at the recommended level whereas, the index for the account manager data (.11) is not. Contrary to the fit indices shown in Table 28 for the testing of the original linkage model, the fit indices for the modified linkage model, only the account manager data is acceptable, whereas some doubts arise regarding the fit indices for field service data. Based on the fit indices presented in Table 29, it can be suggested that the modified linkage model applies better to the account manager data.

As a summary, the results shown in Figure 26 for the account manager data and Figure 27 for the field service engineer data could suggest that when customer interaction has physical and psychological closeness the linkage model described for B-2-C context is valid, as in the field service employee case (figure 25) but when there is limited physical and psychological closeness, the modified

linkage model, presented in Figure 26 using the account manager data, would be more applicable. Thus it can be suggested that the type of interaction between employees and customers has an impact on the structure of the linkage model.

5.7 Different Linkage Models Based on the Types of Interactions Between Employees and Customers

The theory testing results presented in the two previous sections provide evidence and answers to the first research question (RQ1), how employee and customer perceptions in a B-to-B service context differ for employee groups having different types of interactions with customers. To elucidate the differences of the results, a summary of the fit indices for two different models using the data from two employee groups is presented in Table 30. The comparison of the two models, the original model (Figure 20) and the modified model for two employee groups supports the hypothesis that the links between employee and customers perceptions are different based on the type of interactions they have. In the testing of the original model using account manager data, no significant linkages between employee perceptions and customer perceptions were found, thus a modified model was created based on the results of the correlation analyses. Even though, some of the fit indices presented in Table 30 for the original model using account manager data meet the recommendations, the lack of significant linkages created the necessity of proposing a modified linkage model.

Table 30. Summary of the fit indices for the linkage models presented in this study.

	Account managers (original model in figure 24)	Account managers (modified model in figure 26)	Field service engineers (original model in figure 25)	Field service engineers (modified model in figure 27)
Chi-square	27.439	23.03	16.315	47.67
N	38	38	38	38
Degrees of freedom	16	16	16	16
CFI	.96	.96	1.0	.85
RMSEA	.14	.11	0.023	.23
Confidence Interval 90%	0.034-0.222	0.000-0.198	0.000-0.153	0.155-0.304
	p= .04	p= .11	p= .43	p= .00

Several fit indices have been used to evaluate how the data from two employee groups fits with the two models, the original model presented in Figure 24 (account manager data) and Figure 25 (field service engineer data) and the modified model presented in Figures 26 (account manager data) and figure 27 (field service engineer data). However, it has to be noted that the small sample size (N=38) creates limitations to the modeling, which should be kept in mind while making generalizations based on the results provided in this study.

Based on the recommendations by Hair et al. (2006:116-117), model fit can be considered as acceptable if a RMSEA is below .07 and CFI is above >.92. In Table 30 only the modified model using field service engineer data does not meet the

recommendations for CFI. In addition, RMSEA is below the recommended level in both models using field service employee data, but not in either of the models using account manager data. However, the Chi-square for the modified model for account manager data is at an acceptable level, but not for the field service employee data in the same model. Whereas, the difference test of the modified model for the account manager data gives p=11, which is acceptable, the same p index for the field service data in modified model is not acceptable. Furthermore, the confidence interval shown in Table 30, that only in the case of account manager data does the modified model meet the requirement that the intervals are not one upon the other, thus suggesting that the modified linkage model fits better. Contrary to this, the original model seems to meet the requirement that the intervals are not one upon the other, when using field service engineer data.

To conclude, based on the theory testing results of this thesis, it can be suggested that linkages between employees' perceptions of their organization and customers' perceptions of service quality are different based on the types of interactions between two groups. In cases, where employees and customers have a physical and psychological closeness in their interaction, as is the case in field service engineers, the original model is more applicable. In the original model, employees' Personal Engagement predicts customers' perceptions of service quality. In other cases, where employees and customers do not have physical and psychological closeness, as is the case with account managers, the modified model would be more applicable. In the modified model, employees' perceptions of their Workplace Climate predict customers' perceptions of service quality provided by customers.

However, in this particular case, both Personal Engagement and Workplace Climate are important antecedents of the customer perceived service quality, as suggested in the literature (Glisson, 2007; Schneider et al., 1998b) .

Thus, the theory testing results shown in this section suggest that the boundary conditions i.e. the way employees and customers interact may be the separating factor in the linkage research, not the business context i.e. B-2-C or B-2-B. Vargo and Lusch (2011:184) have recently suggested that instead of separating services to B-2-B or B-2-C, it should be called actor-to-actor (A2A). They propose that the concept of service could provide the required common denominator by identifying the reason for interaction in society – service-for-service exchange.

> That is, in an A2A world, the insights into context, language, meaning, signs, symbols, experiences, rituals, etc. apply not just to what has traditionally been thought of as the 'consumers' world but equally to the 'producers.' Likewise, what has been learned about relationship, partnering, networks, and value, as studied in B-to-B, apply to the consumers' network. (Vargo et al., 2011:184)

This actor to actor thinking applies with the systemic orientation in services as suggested by Vargo and Lusch (2011) and other researchers (Maglio & Spohrer, 2008). This systemic orientation implies the need to understand the holistic view, how different actors (firms, customers, consumers) participate and collaborate in services for the benefit of the whole.

To summarize, applying the A2A thinking into this thesis, the results shown in Figure 26 for account managers (modified model) and Figure 25 for field service engineers (original model) could suggest that when customer interaction has

physical and psychological closeness the linkage model described for B-2-C context is valid, as in the field service employee case in Figure 25 and when there is limited physical and psychological closeness, the modified linkage model, presented in Figure 26 would be applicable, as is often the case in B-2-B context.

5.8 Evaluation of the Methodology

The methodology was created specifically for this study in order to ensure that the theory testing would meet scientific requirements, both conceptually and statistically. The process of testing the linkage model using existing empirical data was a challenge for several reasons. The first step was to operationalize the linkage model depicted by Bowen (2008) at the level that would support the data used to examine it, but ensure its conceptual strength. Secondly, the two survey data, employee and customer, were linked together using a visual basic program specifically developed for this purpose. This phase converted the survey data into research data. Thirdly, an explorative factor analysis was conducted to examine the research data. The fourth step included justification of the business unit level analysis and the naming of factors in the research data. A confirmatory phase employing confirmatory factor analysis and correlation analysis using path modeling was conducted before the last step, theory testing, could commence.

5.9 Measurement Validity and Reliability

Conceptual validity was built through the literature review presented in Chapter 3 and the operationalization process presented in Section 5.2. The assumptions made in the operationalizaton phase have a crucial impact on the whole validity of this research. Therefore a thorough mapping process was seen as a key activity in ensuring the validity of this study.

Convergent validity was achieved by consistently high scores in factor loadings as shown in Table 11 for employee data and in Table 12 for customer data.

Some concerns can be raised with regard to the validity related to the process of collecting customer survey replies. Firstly, as reported before, 50 percent of the replies were collected through an online system and 50 percent by account managers who contacted customers with whom they jointly completed the questionnaire. It is difficult to estimate how much customers' replies may have been affected by the account managers' mediating role and whether the social desirability (Podsakoff et al., 2003) would have impacted on customer replies. Secondly, the customer data had a considerable amount of methods variance (Hyry, 2010). Unexpected conflicts may be created when linking the customer data on a factor level due to the suspected common method variance. The method variance was most likely created by the data gathering process used, which caused the data to have, for example, low discriminant validity. Discriminant validity reports whether the measurement can make a distinction between conceptually different measures. This is most likely to cause problems to the modeling of the relationships between customer- and employee perceptions. However, the use of data where the variable in the dependence relationship has been measured at different times decreases the impact of common method vari-

ance. Nevertheless, a link to customer quality perceptions could be provided using path modeling.

Factor Solution Reliability

The employee satisfaction data fulfilled the requirements of exploratory factor analysis (EFA) by having sufficient correlated variables. However, the measurement items presented in Appendix 5 were removed from the analysis because of high partial correlations and low communalities[23]. That is, these measurement items seemed not to share the dimensionality of the data with other variables, but rather were independent. Their removal resulted in a more stable factor structure with less cross-loadings.

In addition to observing correlations and partial correlations among variables, the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) was used to assess the data suitability for EFA. The KMO measure for customer data was .973, as interpreted by guidelines from Sharma (2009:60), this was "marvelous". The KMO measures for employee data are presented in Table 31, which are "middling", using Sharma's guideline, as presented earlier, in Table 7.

Table 31. KMO measurement for employee data

Employee data	
Kaiser-Meyer-Olkin measure of sampling adequacy	.79
Number of measurement items	117

The observed correlations, partial correlations and KMO measures within the data sample support the initial assumption that the structure of the data can be explored with EFA. The stability of factor solution was tested by running the EFA for

1. Each subgroup within the data (account managers and field service engineers)
2. Original data with missing values and data with inputted missing values

Owing to non-normality within the data, principal axis factoring was used as a factor extraction method. In addition, Promax rotation was used in SPSS because the factors were assumed to be correlated and default rotation settings (Kappa = 4) was used as recommended by Costello and Osbourne (1996:116).

Quality of Factor Solution

The quality of factor solution was examined by creating an appropriate confirmatory factor analysis (CFA) model and testing its fit with the observed factor covariance.

The CFA model fit was improved by eliminating some measurement items. This was because two measurement items had almost the same content, or a question was too general to fit any single factor group. The same process was conducted with the customer data.

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23 Communality: The total amount of variance an original variable shares with all other variables included in the analysis (Hair, 2006:102).

Construct Reliability

As described in Chapter 5, the closer Cronbach's Alpha is to 1.0 the better is the construct reliability. The following Tables 32 and 33 present Cronbach's Alpha statistics.

Table 32. Construct reliability measured with Cronbach's Alpha for employee data.

	Account Managers	Field Service
Supervisor	.90	.91
Internal Quality	.82	.82
Workplace Climate	.89	.90
Personal Engagement	.85	.81

Table 33. Construct reliability measured with Cronbach's Alpha for customer data.

Responsiveness & Empathy	.93
Reliability	.94
Assurance	.94

As can be seen from tables above, Cronbach's Alpha factor is very satisfactory in both samples; this supports the construct validity of the research.

It is recommended in the literature that several estimation methods be applied to validate the results (Ketokivi, 2009:230-231). Thus, the path modeling results presented in the previous sections were validated by using a general least square estimator (GLS) method. The outcome of the GLS estimation fully supported the results shown in Figure 24 and 25. The results are presented in Appendix 11.

5.10 The Main Results of the Theory Testing and Other Contributions

The important and encouraging outcome of the theory testing is that the research data from a B-to-B context supports the integrated linkage model earlier developed in the B-to-C context. The results of the linkages between field service employees' perceptions of their organization and customers' perceptions of service quality supported the links as defined in the linkage model presented in Figure 20. However, as hypothesized, the testing of the linkage model using the account manager data did not confirm any of the linkages between employees' Personal Engagement and the three customer quality perceptions. Thus a modified linkage model was created. In this modified model, two constructs changed places in the modified linkage model compared to the original linkage model. Interestingly, the account managers' data fitted better with the modified linkage model. Additionally, linkages between account managers' perceptions of their Workplace Climate and all three customer quality perceptions were significant and positive.

An interpretation of the research finding is that the structure of the linkage model is dependent on the type of interaction employees and customers have.

Recent research by Vargo and Lusch (2011) supports the theory testing findings of this thesis. They claim that the categorization to B-to-C and B-to-B is obsolete. Their justification is that every actor in the service value chain, according to service-dominant logic, is a resource integrator and therefore they propose starting to use the term Actor-to-Actor (A2A).

Most of the current linkage research has studied links between employee-customer perceptions in a B-to-C environment where the physical and physiological closeness is present. This thesis puts forward a novel theoretical contribution by providing theory testing results in a B-to-B environment with two different types of employee groups. These two employee groups, account managers and field service engineers, interact with customers in different ways. Account managers contact customers most often by phone or email whereas field service engineers conduct the maintenance work on the customer premises. Account managers represent his/her team and other departments of the company whereas the field service engineers' role is to make sure the engines are functioning well after his/her service visit to the customer. As a field service engineer's role is physically and psychologically connected to customers' employees, it is therefore logical that their Personal Engagement predicts customers' perceptions of the quality provided, such as Assurance and Reliability. Further to this, field service engineers are by themselves in the customer premises whereas, account managers are surrounded by their sales and technical teams for support. Thus, the research result that account managers' perception of their Workplace Climate predicts customer perceptions of service quality is logical.

However, the same results could not be verified with the field service data. Overall, the results of this thesis emphasize the importance of Personal Engagement and Workplace Climate as a means to build trust with customers in service businesses.

To summarize the theory testing results*: firstly,* linkages as defined in the linkage model in Figure 20 between employees' perceptions of their organization and customers' perceptions of quality provided by employees are verified using the field service employee data of this study. The analysis results presented in Figure 25 shows that field service employees' perceptions of Workplace Climate and Internal Quality impact on their Personal Engagement which predicts customers' perceptions of Reliability and Assurance provided by employees. Additionally, all internal linkages between employees' perceptions of his/her organization are positive and significant. *Secondly*, the analysis result presented in Figure 24 did not confirm that account managers' Personal Engagement would predict customers' perceptions of service quality as defined in the original linkage model. Neither did the model fit indices for account manager data attain the required levels. Regardless, four out of five of the internal linkages in the original linkage model with the account manager data are positive and significant. Only the link between Internal Quality and Personal Engagement was not significant. Thus, a modified linkage model was created to examine whether the change of the order of two constructs from that of the original linkage model, Personal Engagement and Workplace Climate, would have an impact on the results. In this modified linkage model Personal Engagement and Workplace Climate changed places as indicated by the correlation analysis shown in Table 26. *Thirdly,* this analysis, shown in Figure 26, verified that account managers' perceptions of Internal Quality and their Personal Engagement impacted on their perceptions of

Workplace Climate, which in turn, predicted customers' perceptions of service quality provided by account managers. This result suggests a modification of the linkage model in a B-to-B service context, where the physical and psychological closeness with the customers does not exist. Similar analysis using field service employee data did not attain the required level of model fit indices.

Several questions arise from the results presented in this chapter. Is the boundary condition between employee and customer the denominator of the structure of the linkage model? The theory testing results presented in this study suggests that when the physical and physiological closeness exists, as in the case of the field service employees, the original linkage model is valid in a B-to-B service context. Whereas, when there is no physical closeness, as in the case of account managers, the modified linkage model may in fact be found preferable. Consequently, it can be suggested that customers' perceptions of quality provided by employees in a B-to-B service context is based on a supplier's entire organization's capability to create trust and reliability in their interactions with customers, either through their Personal Engagement or through the Workplace Climate.

Furthermore, Vargo and Lusch (2011) have raised a concern that the categorization B-to-C and B-to-B is obsolete and instead name actor-to-actor (A2A) should be used. Vargo and Lusch (2011) justify their proposal by claiming that every actor in the service value chain, according to service-dominant logic, is a resource integrator. Thus the suggestion of this thesis is that it is not about B-to-C or B-to-B but the type of interactions that determine the structure of the linkage model defining employee and customer perceptions in B-to-B services.

In addition to the theory testing results, the first part of this thesis provides two methodological contributions, namely the conceptualization of each construct in the linkage model depicted by Bowen (2008) (chapter 3) and the operationalization method (section 5.2.). The Operationalization method supported the establishment of the correspondence between the empirical data and the linkage model. This method is likely to be applicable to any similar type of research. Furthermore, the first part of this thesis provides a theoretical contribution through a depiction of the cross-disciplinary evolution of service profit chain and linkage research (section 2.4).

To summarize, the research results presented in this chapter provide grounds for recognizing the importance of the role played by supervisors and peers in the creation of such an organizational climate that enhances employees' positive perceptions of their workplace and its relationships. Moreover, the recent industrial management literature emphasizes the role of human experiences (Ramaswamy, 2011) and the strength of relationships (Ballantyne et al., 2011) as the means to reveal new value creating possibilities in services. Thus, it is justified to discuss in more detail, what studies and theories of positive organizational scholarship may provide to the current discussion of service-dominant logic by Vargo et al. (2010).

Therefore, Part II of this thesis provides positive means of fostering the creation of positively deviant behaviors of the actors in the service profit chain that may facilitate positively deviant service businesses. Further to this, it is proposed this discussion be incorporated into the field of service profit chain and service-dominant logic theories and studies.

PART II

6 Incorporating Positive Organizational Scholarship Theories into Service Profit Chain Thinking

Whilst to some extent speculative, this study goes some way towards proposing means of promoting good organizational outcomes such as high sales, customer loyalty and retention. The recent research on industrial marketing management has emphasized the importance of human experiences (Ramaswamy, 2011), collaboration (Ballantyne et al., 2011) and the strength of relationships (Berry, 2011) as new value creation possibilities for service businesses. Research in positive psychology and especially positive organizational scholarship (POS) provides novel viewpoints of the means of fostering positively deviant service businesses through positively deviant behaviors of actors in the service profit chain. Therefore, in Part II, we now move onto considering what could be achieved if the service profit chain thinking was complemented using a specific theory of the field of POS; the broaden-and-build theory of positive emotions by Fredrickson (1998; 2001).

6.1 The Impact of Positive Emotions in the SPC

Fredrickson (2004a) argues that the positive emotions of members of an organization may, over time, have an influence on organizational functioning. Fredrickson's (1998; 2001) *broaden-and-build theory of positive emotions* will be used in this thesis as the framework to indicate how individuals' positive emotions broaden-and-build their personal resources and elevate their health and well-being. According to Fredrickson (2004a), experiences of positive emotions transform people and they may become more creative, knowledgeable, resilient, socially integrated and healthier individuals. On an organizational level, the increased personal resources of the members of an organization may foster positively deviant performances in the service profit chain, thus creating a strengthening upward spiral.

The results from Part I showed that all four types of actors: supervisors, employees, peers and customers influence the outcomes of service profit chains. Therefore, Part II of this thesis seeks to answer the following research question:

Research Question 3 (RQ3): Based on the existing POS theories and studies, how may the broaden-and-build processes of actors in the SPC enable them to foster the creation of positively deviant service businesses?

Part II of this thesis suggests that a positively deviant service business can be generated through a collective effort in the workplace and is fostered through individual member's broaden-and-build processes. The broaden-and-build process is described in Figure 30.

Fredrickson (2003a:174; 2004b) claims that *positive emotions* such as joy, interest, contentment, love, pride, hope, inspiration and gratitude can, over time, transform organizations. Further to this, she claims that positive emotions do not only signal optimal functioning but create optimal functioning among individuals themselves as well as those around them (Fredrickson, 2004a). Additionally, it has been suggested that positive emotions make members of the organization more flexible, empathic and creative (Rowe, Hirsh, & Anderson, 2007).

6.2 The Broaden-and-Build Theory of Positive Emotions

Fredrickson's (1998, 2001) broaden-and-build theory of positive emotions proposes that positive emotions broaden people's habitual modes of thinking, inspiring novel thoughts and actions and enhancing relationships. Fredrickson (2004a:1369) uses the following example to illustrate what she means by the broadening of peoples' momentary thought-action repertoires. In a life-threatening situation a narrowed thought-action repertoire helped our ancestors to survive by responding to a specific situation with the urge to act in a certain way. For instance, the emotion of fear became connected to the specific action of escape and the emotion of anger connected our ancestors to the action of attack. These specific action tendencies were related to negative emotions and a psychological process that narrows an individual's momentary thought–action repertoire to encourage quick and potentially critical action. However, positive emotions hardly ever appear in life-threatening circumstances. According to Fredrickson (2004a:1369) positive emotions have the different effect; they broaden peoples' momentary thought–action repertoires and widen the range of thoughts and actions that come to mind.

> Positive emotions broaden (rather than narrow) an individual's thought-action repertoire, with joy creating urge to play, interest to urge to explore, contentment the urge to savor and integrate, and love a recurrent cycle of each of these urges (Fredrickson, 1998:315).

According to Fredrickson (2001:218) positive emotions not only signal flourishing but also produce flourishing. Fredrickson (2003a) argues that positive emotions accumulate and build positive upward spirals that boost, for instance, emotional well-being, flourishing, psychological resilience, personal resources and trust. Through these cycles of positive upward spirals, people build their psychological resilience and enhance their emotional well-being (Fredrickson, 2001:223). One significant finding in the broaden-and-build theory of positive emotions is

that the experiencing of positive emotions does not only increase the level of individuals' emotional well-being, but also builds their inner strength that helps them to survive through hard times (Fredrickson, 1998; 2001; 2002). Fredrickson (2003a: 174) suggests that such broadening builds stronger social connections, better organizational climates and extraordinary organizational outcomes.

> Positive emotions can transform organizations because they broaden people's habitual modes of thinking, and in doing so, make organizational members more flexible, empathic, creative and so on (Fredrickson, 2003a:174).

Cohn and Fredrickson (2009a) have illustrated the functioning of the broaden-and-build theory of positive emotions (figure 28).

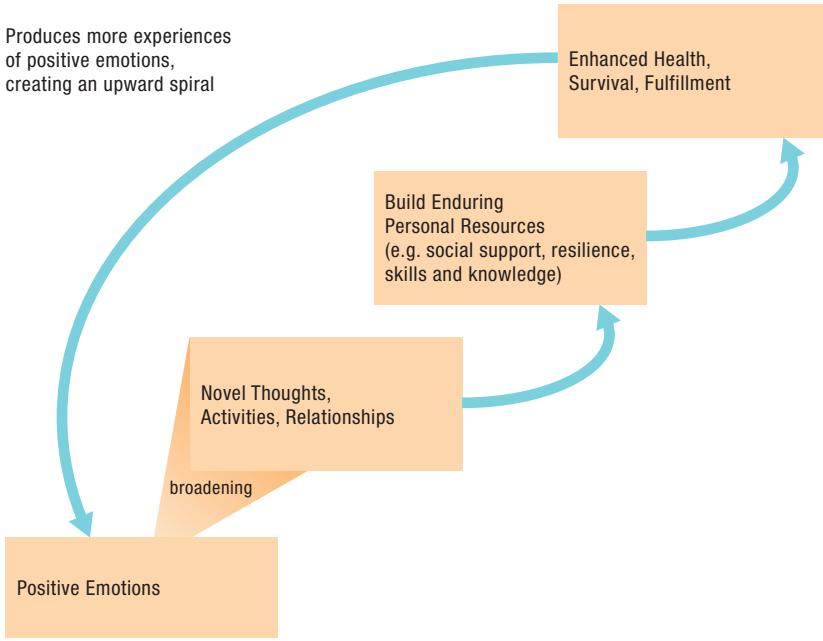

Figure 28. The broaden-and-build theory of positive emotions (Cohn & Fredrickson, 2009a).

Figure 28 shows how positive emotions broaden one's momentary thought-action repertoire by expanding the range of thoughts and actions through opening new ways of thinking and acting (Cohn & Fredrickson, 2009a, Fredrickson, 2004a).In addition, as shown in Figure 28, broadened mind produces more experiences of positive emotions and by doing so, creates an upward spiral.

The broadened mind builds enduring personal resources such as intellectual, social, psychological and physical resources (Fredrickson, 2003b:333), which in turn transforms people and creates more experiences of positive emotions, creating an upward spiral. The broadened mind creates *Intellectual resources* such as reasoning skills, problem-solving skills and domain specific knowledge. Such resources help individuals to learn new information and foster creativity (Fredrickson, 2003b; Rowe et al., 2007), thus causing a positive impact on productivity in

the service context (Dyer et al., 2006). *Social resources* refers to strengthened relationships, wide social networks (Dutton & Heaphy, 2003; Dutton & Ragins, 2007) and new relationships. *Psychological resources* include self-efficacy and coping skills. Furthermore, research shows that personal resources foster resilience and optimism (Fredrickson, Tugade, Waugh, & Larkin, 2003; Luthans, Avey, Clapp-Smith, & Li, 2008), the sense of identity, goal orientation (Dutton & Heaphy, 2003) and lower levels of absenteeism (Avey, Patera, & West, 2006). *Physical resources* such as effective immune functioning and proper stress regulation strengthens one's coordination and physical strength (Cohn, 2008; Fredrickson, 2003b:333). Moreover, positive emotions can undo the long-lasting effects of negative emotions on health by speeding up the cardiovascular recovery and lowering the risk for coronary heart diseases (Fredrickson, 1998:314).

Furthermore, the broaden-and-build theory suggests that the more often an individual experiences positive emotions, the higher his/her levels of personal resources, this is due to people being more likely to build personal resources in broadened states (Cohn, 2008:3).

As indicated in Figure 28, personal resources and their consequences for well-being produce more experiences of positive emotions and create an upward spiral of further positive emotions.

Fredrickson (2003a:175) argues that organizational outcomes are dependent on these individual level resources, by suggesting that efforts to nurture positive emotions may help organizations eliminate stagnation and achieve harmony, energy, and conceivably even prosperity. Cohn and Fredrickson (2006:39) refer to a high number of experimental research studies in a laboratory environment which substantiate the importance of positive emotions. Experimental research provides evidence that people in positive emotional states:

- Take a "big-picture" view, attending to the general outline of images rather than the details (Fredrickson & Branigan, 2005a)
- Increase an individual's use of adaptive reframing and perspective taking coping skills (prohibits depression) (Fredrickson et al., 2002)
- Find more varied and adaptive ways to use their social support network (Cohn & Fredrickson, 2006)
- Broaden an individual's sense of self to include close and potentially close others (Waugh & Fredrickson, 2006)
- Recognize people of different races in ways more similar to their own race (Johnson & Fredrickson, 2005)

In short, positive emotions broaden an individual's thinking towards seeing more opportunities, towards preventing the establishment of negative emotions, towards preventing depression and towards building long-lasting psychological tenacity that strengthens an individual's capabilities to survive upcoming challenges. Burns et al. (2008) replicated the studies on the broaden-and-build theory of positive emotions proposed by Fredrickson with undergraduate students. They (Burns et al., 2008) were able to verify the links between experiences of positive emotions and broadened mind coping and interpersonal trust. In addition, Burns et al. (2008) found that experiences of positive emotions and interpersonal trust were reciprocally interlinked. A broadened mind literally enlarges the spectrum of opportunities and the view one has of self and others (Fredrick-

son, 2009:63). Moreover, positive emotions not only broaden one's momentary action-thinking repertoire, but they also predict the tendency of positive emotions in the future (Fredrickson et al., 2002:174).

6.3 Positive Meaning and Positive Deviance

The research conducted by Folkman (1997) among caregiving partners of AIDS patients provide evidence of how positive emotions originate from positive meaning. In her (Folkman, 1997:1217) paper on the co-occurrence of positive and negative states in stressful circumstances she found four types of coping processes that generated and sustained positive psychological states. These four coping processes were positive reappraisal, goal-directed problem-focused coping, spiritual beliefs and practices and the infusion of ordinary events with positive meaning (Folkman, 1997:1212).

According to Folkman (1997:1212) "*positive reappraisal* refers to cognitive strategies for reframing a situation to see it in a positive light". *Problem-focused coping* is goal-directed and contains strategies for assembling information, decision making, planning and resolving conflicts in order to solve or manage problems that hinder or block goals and create distress. Folkman (1997:1212) found in her study that problem-focused coping and positive affect were positively related. She suggests that problem-focused coping probably contributes to positive psychological states by letting caregivers experience a sense of accomplishment.

Spiritual beliefs and practises refer to religious and spiritual processes in which individuals turn to in times of duress. Spirituality and religiosity cultivate positive reappraisals of the difficult situation and help individuals' create positive psychological states. In her study Folkman (1997:1215) analysed what transformed *ordinary events* into positive events and she found the three most frequently reported sources of *meaning* were: feeling connected and cared about, feeling a sense of achievement and self-esteem and having an opportunity to be separated from everyday worries. She (Folkman, 1997:1215) claims that positive events refer to an event that makes an individual feel good and is meaningful for him/her and helps him/her to get through the day.

The above mentioned four coping processes have a common theme: searching for and finding a positive meaning. Folkman (1997) proposes that positive behaviours transform ordinary events into positive events which create positive meaning and positive emotions. Moreover, these positive events may help reestablish psychological resources such as social support, self-esteem and hope (Folkman, 1997:1217).

Similarly, Fredrickson (2003a:174) proposes that positive emotions can be cultivated in the workplace by helping others to find positive meaning in their daily work experiences, by arguing that "emotions follow from appraisals of personal meaning". Positive meaning at work can grow from, for example experiences of competencies, involvement, significance, achievements and social connections (Fredrickson, 2003a:174). These experiences can be cultivated by other members in the organization through such behaviors that express their appreciation, love, gratitude, helping others, trustworthiness and unselfishness (Fredrickson, 2003a, b). This thesis calls those positive behaviors that transform ordinary events into positive events, *positively deviant behaviors*.

Fredrickson provides examples of how members in an organization can foster the creation of positive meaning among others:

> Positive meaning can be obtained by finding benefits within adversity, by infusing ordinary events with meaning and by effective problem solving. You can find benefits in a grim world, for instance, by focusing on the new found strengths and resolve within yourself and others. You can infuse ordinary events with meaning by expressing appreciation, love and gratitude, even for simple things. And you can find positive meaning through problem solving by supporting compassionate acts toward people in need. So although the active ingredient within growth and resilience may be positive emotions, the leverage point for accessing these benefits is finding positive meaning. (2003b:335)

Positively deviant behaviors are not expected, as was discussed in the Introduction and shown in the Working Conditions Survey 2005 EU27 in Appendix 2. Thus, Spreitzer & Sonenschein (2003:208-209) argue that since positive deviant behavior is not expected, it catches peoples' attention. They (Spreitzer et al., 2003:209) define *positive deviance* as an individual employee's "intentional behaviors that depart from the norms of referent group in honorable ways". Spreitzer & Sonenschein (2003:208) provide an example of a plant manager at a Fortune 500 company, where employees' insecurity was reflected in the poor work climate and that had a negative impact on the launch of a new product. The plant manager's positively deviant behaviour was to promise to the union lifelong employment in order to improve the work climate. This radical and unexpected act had a long term impact. Several years later, the employees still felt energised and had a feeling of having meaning at work. This was supplemented by continuing to care for their customers as well as each other in this world-class company. Spreitzer & Sonenshein (2004:845) claim that such positively deviant behaviors are contagious – in that those witnessing positively deviant behaviors are stimulated to behave in a similar way.

To clarify how *positively deviant performance* can be created in organizations, Cameron (2003) has drawn a picture shown in Figure 29. The picture portrays a condition of normality or healthy performance in the middle, with a condition of negatively deviant performance on the left and a condition of positively deviant performance on the right.

Individual:			
Physiological	Illness	Health	Wellness
Psychological	Illness	Health	Flow
	Negative Deviance	**Normal**	**Positive Deviance**
Organisational:			
Effectiveness	Ineffective	Effective	Excellence
Efficiency	Inefficient	Efficient	Extraordinary
Quality	Error-prone	Reliable	Flawless
Ethics	Unethical	Ethical	Benevolence
Relationships	Harmful	Helpful	Honoring
Adaptation	Threat-rigidity	Coping	Flourishing
Revenues	Losses	Profits	Generosity
Orientation:	**Problem solving** ⬆		⬆ **Virtuousness**

Figure 29. Positively deviant performance and outcomes (Cameron, 2003:56).

Figure 29 presents Cameron's view of the creation of positive deviance in an organization suggesting that organizations can choose a problem solving orientation or strive for *virtuousness*.[24] Virtuousness and positively deviant behavior have a close connection (Spreitzer et al., 2003). Virtuousness, as described by Cameron in Figure 29, is an organizational state where the adapted orientation needs to be exceptional in order to create successful businesses, wellness and flow among employees. According to Cameron et al. (2004:767) "Virtuousness is associated with what individuals and organizations aspire to be when they are at their very best". Cameron et al. (2002) describe the state of virtuousness as

> ... a positively deviant condition in which organizations were perceived to demonstrate high levels of forgiveness, optimism, compassion, integrity and trust (Cameron et al., 2002:2).

Organizational virtuousness can emerge from individuals' actions such as positively deviant behaviors, but also from collective actions, features of organizational culture and structure and processes that encourage the enactment of virtuousness (Wright & Goodstein, 2007:943). A study by Cameron et al. (2002) examined the relationship between organizational virtuousness and performance in organizations that had recently downsized. They found that virtuousness and positively deviant performance were positively related.

In Figure 29 Cameron suggests that a problem solving orientation may create a negative deviance, i.e. psychological and physiological illness among individuals in the organization. Contrarily, according to Cameron, virtuousness creates positively deviant performance, a condition that reinforces individual wellness and experiences of flow (Csikszentmihalyi, 1990; Salanova et al., 2006).

The next section presents the broaden-and-build process of four types of actors in the service profit chain that may foster the creation of positively deviant service businesses using theories provided by Folkman (1997) and Fredrickson (1998, 2001, 2003a).

6.4 Broaden-and-Build Processes of Four Types of Actors in the Service Profit Chain

Connecting the research and conceptual insights by Folkman (1997) and Fredrickson (1998; 2001; 2003b) with the results of this thesis, it is possible to suggest a novel model of how an individual actor in the service profit chain can cultivate others' positive emotions by applying positively deviant behaviours and thus create positively deviant performance among themselves and with other actors in the SPC. Individual level positively deviant performance, such as trust in self and others, a feeling of oneness, creativity and seeing the bigger picture impact on the creation of organizational level positive deviance in the sense recognised by Cameron (2008).

The illustration of this broaden-and-build process is presented in Figure 30.

24 Cameron uses the term problem solving somewhat unconventionally and in a sense different from Folkman (1997:1212). Problem solving in Cameron's case is focusing on negative organizational conditions, whereas Folkman suggests that a problem-focused coping may resolve conflicts in order to solve or manage problems that hinder or block goals and create distress.

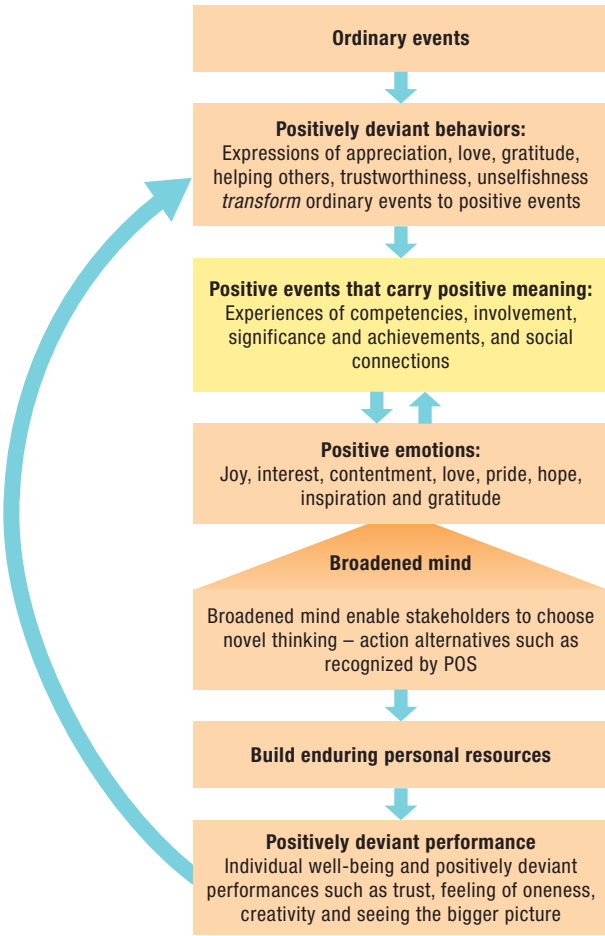

Figure 30. The broaden-and-build process of four types of actors in the SPC: a reinforcing cycle of positively deviant behaviours and positive emotions in the creation of positively deviant performance.

The broaden-and-build process presented in Figure 30 expresses the importance of positively deviant behaviors, such as expressions of appreciation, love, gratitude, helping others, trustworthiness and unselfishness as the means of transforming ordinary events into positive events (Folkman, 1997; Fredrickson, 2003a). Positive emotions, in turn, emerge when positive events carry positive meaning (Folkman, 1997). According to Fredrickson (2003a:174), positive meaning at work can be triggered by experiences of competencies, involvement, significance and achievements and social connections. Figure 30 suggests still, based on existing research (Folkman, 1997; Fredrickson, 2003b; Spreitzer et al., 2003), how the broaden-and-build process can create individual level positively deviant performance. These individual level positively deviant performances, such as emotional well-being, flourishing, psychological resilience, personal resources and trust (Fredrickson, 2003a) may foster the reinforcing cycle of positively deviant behaviors within those individuals.

POS studies recognize several individual level positively deviant performances that are relevant for a service context: positively deviant performances yield

more creativeness (Rowe et al., 2007), better productivity (Wright et al., 2004), better performance (Losada & Heaphy, 2004), flourishing workplaces (Fredrickson & Losada, 2005b), better resilience (Cohn, Fredrickson, Brown, Mikels, & Conway, 2009b; Fredrickson et al., 2003; Tugade, Fredrickson, & Feldman Barrett, 2004), more trust (Dunn & Schweitzer, 2005; Fredrickson, 2009), feeling of oneness (Waugh et al., 2006), less absenteeism (Avey et al., 2006), better negotiations (Kopelman, Rosette, & Thompson, 2006) and seeing the bigger picture (Fredrickson, 2003b). However, these researches have not been conducted in a service context.

In order to take steps to filling this gap, four examples are presented in this section of how individual level positively deviant performances can create positively deviant service businesses. The following Tables 34, 35, 36, 37 suggest links between the broaden-and build theory (Fredrickson, 1998) and other POS literature and the results presented in Part I and the services marketing literature. These links are created using four individual level positively deviant performances: trust in self and others, feelings of oneness, creativity and seeing the bigger picture. These four positively deviant performances have been recognized in the existing services marketing literature as the means of creating positively deviant service businesses: trust (Grönroos, 2004; Hennig-Thurau et al., 2006), feeling of oneness (co-creation of the value) (Grönroos, 2008; Gummesson, 1998; Pugh et al., 2002), creativity (interactive learning) (Gummesson, 1998; Selnes et al., 2003). In addition, an efficient co-creation of the value in the SPC (Gummesson, 1998; Hennig-Thurau et al., 2006) requires that various actors: supervisors, employees, peers and customers understand that the whole is bigger than sum of its parts. In envisioning the bigger picture, concepts of systems thinking (Ackoff, 1999; Senge, 1990) and systems intelligence (Hämäläinen & Saarinen, 2004) are considered to be relevant in the creation of positively deviant service businesses.

The theory testing in Part I showed that all four groups of actors are important in the service profit chain: supervisors, employees, peers and customers. The results presented in Part I indicated a potential link between positive emotions expressed by these four groups of actors in SPC and service business profitability, even though positive emotions were not studied in Part I.

The next section present how the link between the broaden-and-build theory and other POS studies and theories and results in Part I could be integrated with existing studies on services marketing.

6.5 Connecting Positively Deviant Performances with Empirical Data and Services Marketing Literature

The broaden-and-build process presented in the previous section (Figure 30) highlighted the importance of positively deviant behaviors of actors in the SPC including phenomena such as expressions of appreciation, love, gratitude, helping others, trustworthiness and unselfishness as the means of transforming ordinary events into positive events. Positive events, in turn, create positive meaning among participants and foster the creation of positive emotions among therein.

These positively deviant performances of an individual are important as they reinforce the creation of positive emotions and positively deviant behaviors of

that individual. Moreover, positively deviant behaviors of an individual foster the creation of positive emotions among other actors in the SPC as presented in Figure 30. Thus, four positively deviant performances have been chosen to elucidate how the broaden-and-build processes of supervisors, employees, peers and customers could foster the creation of positively deviant service businesses. These four individual level positively deviant performances are *trust in self and others, feeling of oneness, creativity* and *seeing the bigger picture*. The basis for choosing these four examples arises firstly from studies on the broaden-and-build theory and other POS literature that provides evidence on the impact of positive emotions on the creation of these four positively deviant behaviors. Secondly, they arise from the interpretation and elaboration of the findings presented in Part I using existing theory, and thirdly from services marketing literature that highlights the importance of interactions, trust, relationship learning and the co-creation processes in successful service businesses (Grönroos, 2008; Gummesson, 1998).

The four individual level positively deviant performances impacting on the creation of positively deviant service businesses will be discussed in the following sections.

6.5.1 Trust in Self and Others

Table 34 presents three items related to *trust in self and others*. The first row consists of existing studies on the broaden-and-build theory of positive emotions and other POS theories and studies. The second row presents related results from Part I and the third column consists of references from services marketing literature.

Rousseau, Sitkin, Burt and Camerer (1998:395) define trust as "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another". Furthermore they argue that trust is an individual's expectations about a trustee's future behavior.

The first row in Table 34 explicates how positive emotions have been shown to impact on building *trust in self and others* (Dunn et al., 2005). In their study, Dunn and Schweitzer (2005) portray five separate experiments of how different emotional states such as happiness, anger, gratitude, pride and guilt impact on the creation of trust. They report that incidental emotions significantly affect trust, i.e. happiness and gratitude increase trust, whereas anger decreases trust. Further to this they verified that trusters' incidental emotions which were not related to the trustee influenced their preconceptions of the trustworthiness of the trustee. In addition, Dunn and Schweitzer (2005) argue that emotions influence familiar trusters in new situations or judgements of familiar trustees especially in cases where the truster has had a mix of positive and negative experiences with the trustee. In other words, when a truster comes to a new situation with positive emotions it has an impact on his/her capability to build trust with a new person. Furthermore, a truster's positive emotions have a vital impact on his/her capability to build trust with familiar trustees as well.

Based on their research, Dunn and Schweitzer (2005:746) recommend that decision makers do not make immediate decisions regarding trust. On the contrary, they propose that decision makers, in an organizational context, should make trust judgements over time based on several interactions with their associ-

Table 34. Examples of how the positive emotions of four types of actors in SPC may foster the creation of positively deviant performance in terms of increased trust in self and others.

Trust in self and others	
The broaden-and-build theory of positive emotions and other POS theories and studies	• Expressions of positive emotions increase the trust in self and others (Dunn & Schweitzer, 2005). • Positive affect (PA) predicts increased social resources of interpersonal trust, and interpersonal trust predicts increased PA (Burns et al., 2008:361). • Trust creates organizational level positively deviant performance (Cameron et al., 2002).
Results presented in Part I	• Account managers perceptions on their Workplace predict customers' perceptions of account managers' capability to build Assurance (trustworthiness). • Field service engineers' perceptions of their Personal Engagement predict Customers' perceptions of field service engineers' capability to build Assurance (trustworthiness).
Services marketing literature	• The focus of trust in a service context is on future conditions. Trust is about suppliers' intentions and motives beneficial to the customers and about their concerns in creating positive customer outcomes (Ganesan, 1994). • Trust has been defined as a key enabler in building customer relationships (Grönroos, 2004; Hennig-Thurau et al., 2006), customer loyalty (Caceres & Paparoidamis, 2007; Hansen et al., 1999) and brand image (Yieh et al., 2007). • Caceres et al.'s (2007) study shows that customers' perceptions of trust provided by suppliers in a B-to-B context had a positive impact on customers' commitment that in turn predicted customer loyalty. • Selnes and Sallis (2003) suggest that learning in a customer supplier relationship is developed by facilitating an information exchange and by developing common learning arenas with willingness to co-operate and mutual trust being the key enablers of genuine relationship learning.

ates on several occasions. Furthermore, they advise everyone in an organization to note that the incidental emotions of others can change their judgments of the trustworthiness of their colleagues.

Burns, Brown, Sachs-Ericsson, Plant, Curtis, Fredrickson and Joiner's (2008:361) study of 185 undergraduates validated that positive affect[25] (PA) and broad-minded coping and interpersonal trust reciprocally predicted one another. Their research results showed that positive affect predicted increased social resources of interpersonal trust and interpersonal trust predicted increased PA. In addition, according to Cameron et al. (2002) trust creates positively deviant conditions in an organizational context.

The second row in Table 34 presents the results shown in Part I of this thesis. The results presented in Part I showed that account managers' perceptions of their Supervisors impacted on their perceptions of Personal Engagement and Internal Quality, which in turn impacted on their perceptions of Workplace Climate. Further to this, account managers' perceptions of Workplace Climate (figure 26) predicted customers' perceptions of the Assurance provided by account managers and ultimately had a positive relationship with customer loyalty as is shown in Appendix 14.

25 Fredrickson (2001:218) argues that positive emotions are a special case of positive affect

These results can be interpreted and elaborated through the means provided by the broaden-and-build process presented in Figure 30 and other literature references. These theories suggest that an individual's experiences of positive meaning and positive emotions are fostered by positively deviant behaviours, such as appreciation and helping others, of other members in the organization (Folkman, 1997). In the present case, when the supervisors and peers exhibit positively deviant behaviours (such as helping the account managers and showing appreciation to them), they also impact positively on the account managers' experiences of their Workplace Climate (figure 26) and, according to the theory (Folkman, 1997), enable them to experience positive meaning and positive emotions. Account managers' positive emotions, in turn, foster the creation of their trust in self and others (Dunn et al., 2005) and their capability to build assurance, i.e. trustworthiness, as perceived by customers (this connection is clearly shown in Part I, figure 26). In addition, customers may catch the positive emotions of account managers through the emotional contagion process, as suggested by Pugh (2002), which can further foster the creation of mutual trust in a relationship. Further to this, Spreitzer & Sonenshein (2004:845) argue that such positively deviant behaviors are contagious – in that those witnessing positively deviant behaviors are stimulated to behave in a similar way.

Similarly, field service engineers' Personal Engagement (figure 25) was impacted on their perceptions of Workplace Climate and Internal Quality and their Personal Engagement predicted customers' perceptions of Assurance. In addition to this, field service engineers' perceptions of their Supervisors predicted their perceptions of Workplace Climate and Internal Quality provided by his/her peers, which in turn predicted his/her Personal Engagement. These results can be interpreted and elaborated through the means provided by the broaden-and-build process presented in Figure 30 and other literature references. These theories (Folkman, 1997; Fredrickson, 2003b) suggest that an individual's experiences of positive meaning and positive emotions are fostered by positively deviant behaviours, such as appreciation, of other members in the organization. In the present case, when supervisors and peers exhibit positively deviant behaviours (such as showing appreciation to field service engineers), they also impact positively on the field service engineers' perceptions of their Personal Engagement (figure 25) and, according to the theory (Folkman, 1997), enable them to experience positive meaning and positive emotions. Field service engineers' positive emotions, in turn, foster the creation of their trust in self and others (Dunn et al., 2005) and their capability to build assurance, i.e. trustworthiness, as perceived by customers (this connection is clearly shown in Part I, figure 25). In addition to this, as mentioned above, customers may catch the positive emotions of service employees' through the emotional contagion process (Pugh, 2001) and further foster the creation of mutual trust in the supplier-customer relationship. Consequently it is to be expected that positively deviant behaviors of supervisors', employees', peers' and even customers' and their positive emotions have a significant role in building interpersonal trust in the SPC.

The last row in Table 34 provides some examples from the services marketing literature of how trust can create positively deviant service businesses. Trust has been defined as a key enabler in building customer relationships (Grönroos, 2004; Hennig-Thurau et al., 2006), customer loyalty (Caceres et al., 2007; Hansen et al., 1999) and brand image (Yieh et al., 2007). In addition, Selnes

and Sallis (2003) suggest that learning in a customer supplier relationship is developed by facilitating an information exchange and by developing common learning arenas with willingness to co-operate and mutual trust being the key enablers of genuine relationship learning. As discussed in Section 2.5 relationship learning is a key element in building productivity in a supplier-customer relationship (Gummesson, 1998).

To summarize, to apply research results provided by Dunn and Schweitzer (2005), positive emotions of every actor group: supervisors, employees, peers and customers are important in the creation of trustworthiness in the service business. The conditions leading to trust are reciprocal in a relationship, meaning that trust and positive emotions mutually predict one another (Burns et al., 2008). Thus, both the results from Part I and the services marketing literature emphasize the importance of trust in the creation of positively deviant service businesses.

6.5.2 Feeling of Oneness

The second example of a positively deviant performance, *feeling of oneness*, and its equivalent items are presented in Table 35. Waugh and Fredrickson (2006:94) suggest that "when people feel positive emotions, over time, these positive emotions become associated with greater feelings of self–other overlap and "oneness," and this broadened sense of self may predict a more complex understanding of others".

Table 35. Examples of how the positive emotions of four types of actors in the SPC may foster the creation of positively deviant performance in terms of increased feeling of oneness.

Feeling of oneness	
The broaden-and-build theory of positive emotions and other POS theories and studies	• Positive emotions increase the feelings of self-other overlap and complex understanding of others (Waugh and Fredrickson 2006:95) • Positive emotions increase the capability to have more a complex understanding of others which impacts positively on negotiations (Kopelman, Rosette, & Thompson, 2006). • Broadened mind increases social resources that strengthens existing relationships and helps to create social networks (Fredrickson, 2003:333). • A large number of studies have verified that emotions are contagious between individuals in a group (Barsade, 2002; Neumann & Strack, 2000). The concept of emotional contagion means that people are inclined to take on the emotions displayed by fellow group members with whom they interact (Smith & Mackie, 2008:434; Smith, Seger, & Mackie, 2007)
Results presented in Part I	• Account managers' perceptions of Workplace Climate predict customers' perceptions of Responsiveness and Empathy provided by employees.
Services marketing literature	• Employees displaying positive emotions in service encounters affected customers' positive affect and their evaluations of the service quality (Pugh, 2001). • The service business is interactive in that service quality is built through processes, jointly with the customer, i.e. co-creation (Grönroos, 2008). • At its best co-creation means creation of interactive productivity which is created when the service provider and the customer are interdependent and gain mutual benefit from their interactions (Gummesson, 1998).

The first column in Table 35 elaborates how positive emotions have been verified as impacting on *feeling of oneness* (Waugh et al., 2006). Based on the broaden-and-build theory, positive emotions broaden peoples' senses of self to include others which according to Waugh and Fredrickson (2006:94), may create greater feelings of self-other overlap and "oneness". Their study consisted of diaries and questionnaires provided by first-year college students and their roommates. They examined how positive emotions were connected to greater feelings of self-other overlap of those students who were new to each other compared to those who already had established relationships. Their study verified that a positive relationship exists especially in the formation of a new relationship, between positive emotions and feelings of self-other overlap and complex understanding of others. Waugh and Fredrickson (2006:100) also found that those students, who had ratios of positivity over negativity above a threshold of 2.9:1, were the ones who experienced change in self–other overlap with their roommates and could create complex understanding of their roommates. However, the self-other overlap was significant for only approximately a month, and the impact declined gradually. Aron (1992) has found similar results in his self-expansion studies on motivation and cognition in personal relationships that the impact of positive emotions are relevant mainly in the relationship building phase. Moreover, according to the broaden-and-build theory, a more stable relationship would become a constructive resource in serving to buffer against stress in times of hardship (Waugh and Fredrickson, 2006).

Further to this, a feeling of oneness and the capability to have more a complex understanding of others has been verified as having a positive impact on negotiations (Kopelman, Rosette, & Thompson, 2006). Kopelman, Rosette and Thompson (2006) studied how positive emotions impact on negotiation outcomes in dispute situations. They found that negotiators who showed positive emotions were more likely to expect a long-term business relationship than negotiators who showed negative or neutral emotions. Furthermore, the likelihood for future business relationships was increased if even one of the negotiators chose a positive strategic emotional approach. In addition, a broadened mind increases social resources which strengthen existing relationships and helps to create social networks (Fredrickson, 2003b:333). Consequently, according to Waugh and Fredrickson (2006) positive emotions are especially important in the creation of new relationships, in this case, in the building of new customer relationships in B-to-B services.

The results presented in Part I showed that account manager' perceptions of Workplace Climate predicted customers' perceptions of Responsiveness and Empathy provided by employees. As mentioned earlier, Responsiveness and Empathy refers to account managers' willingness to help and their caring and individualized attention towards customers. Measurement items in the employee data assessing Workplace Climate, in turn relate to employees' perceptions of how participation in workplace development is encouraged, suggestions for improvements are implemented and of how feedback and ideas are obtained from clients.

These results can be interpreted and elaborated trough the means provided by the broaden-and-build process presented in Figure 30 and other literature references. These theories (Folkman, 1997; Fredrickson, 2003b) suggest that an individual's experiences of positive meaning and positive emotions are fos-

tered by positively deviant behaviours, such as appreciation, gratitude, helping others and unselfishness, of other members in the organization. In the present case, when the supervisors and peers exhibit positively deviant behaviours (such as helping the account managers, showing appreciation, gratitude to them and being unselfish), they also impact positively on the account managers' experiences of Workplace Climate (figure 26) and, according to the theory (Folkman, 1997) enable them to experience positive meaning and positive emotions. Account managers' positive emotions, in turn, foster the creation of feeling of oneness (Waugh et al., 2006) among other members in their organization and with their customers. It may be argued that account managers' positive emotions may impact on customers' perceptions of Responsiveness and Empathy provided by them and explicate the result shown in Figure 26 in Part I as customers may have caught the positive emotions of account managers through the emotional contagion process (Pugh, 2002). Spreitzer & Sonenshein (2004:845) argue that such positively deviant behaviors are contagious – in that those witnessing positively deviant behaviors are stimulated to behave in a similar way. Thus, the increased positive emotions of customers, in turn, may broaden their sense of self to include others and create feelings of self-other overlap and "oneness" (Waugh et al., 2006).

Thus the broaden-and-build processes of supervisors and peers, shown in Figure 30, may nurture the creation of positive meaning and positive emotions among account managers, which in turn may support the cultivation of positively deviant behaviors between them and their customers. This in turn enables the creation of positive meaning and emotions among their customers and foster positively deviant behaviors, resulting in positively deviant performances such as feeling of oneness between account managers and customers. As mentioned earlier, positive emotions has a positive impact on new relationship creation (Waugh et al., 2006), in business negotiations (Kopelman et al., 2006) and in the strengthening of existing relationships (Fredrickson, 2003b), all important elements in a successful service business.

The third row in Table 35 presents such theories and studies in services marketing literature that support this item. It was discussed in Section 1.1 that a service business is interactive by its nature, in that service quality is an outcome of a co-creation process jointly with the customer (Grönroos, 2008). Thus Grönroos argues:

> Applying a service logic means that the firm is not restricted to making value propositions only, but also gets opportunities, through the value co-creation possibilities during interactions with the customers, to actively and directly participate in value fulfillment for its customers (Grönroos, 2008:310).

Grönroos (2008) highlights the importance of interactions in services marketing, which emphasizes the vital role of behaviors of both suppliers' employees as well as customers'. According to Gummesson (1998), at its best co-creation means creation of interactive quality and productivity, supplier and customer are interdependent and gain mutual benefit from their interactions. Pugh (2001) found in his study that employees' displaying positive emotions in service encounters affected customers' positive affect and their evaluations of the service quality.

To recapitulate, the broaden-and-build processes of supervisors, employees, peers and customers are important for successful service businesses. SPC literature and the linkage model in particular, as well as results in Part I, emphasize that the four groups of actors are tightly connected to each other. Thus positively deviant behaviors and the feelings of self-other overlap is likely to cultivate the building of co-operation in the workplace as well as with customers. In addition, the research results provided by Waugh and Fredrickson (2006) and Aron (1992) highlight the importance of positive emotions, especially in the creation of new relationships, an important aspect in service contexts. Further to this, a broadened mind fosters more stable relationships and the creation of personal resources serving to buffer against stress in times of hardship (Fredrickson, 2003). Interpreting and elaborating on the results from Part I with the help of the broaden-and-build theory and Services literature, the suggestion is thus that feelings of oneness may foster the creation of positively deviant service businesses, i.e. extraordinary organizational performance in service businesses.

6.5.3 Creativity

Table 36 presents the items related to the third positively deviant performance, creativity. According to Amabile, Barsade, Mueller, & Staw (2005:368) creativity refers to the process of generating new ideas or solving problems as well as to the actual new idea or solution creation. Several studies show that positive affect and emotions facilitate such cognitive processes as decision making (Isen, 2001; Isen, Shalker, Clark, & Karp, 1978), problem solving (Amabile et al., 2005; Atwater & Carmeli, 2009; Carnevale & Isen, 1986; Isen, 2001; Isen, Daubman, & Nowicki, 1987; Rowe et al., 2007) and memory (Isen et al., 1978). Further to this, positive affect assists in difficult problem solving situations by providing flexibility in thinking and encouragement towards efficient, open-minded and thorough thinking (Isen, 2009:514).

As presented in the first row in Table 36, several studies indicate that positive affect has a positive impact on problem solving and decision making in organizational settings (Amabile et al., 2005; Amabile et al., 2007; Carnevale et al., 1986; Fredrickson, 1998; Isen et al., 1987; Rowe et al., 2007).

Based on their research, Isen Daubman and Nowicki (1987:1130) suggest that positive affect influences how topics are processed rather than on simply increasing the problem solving capacity. Their suggestion "for the impact of positive affect on creative problem solving is that good feelings increase the tendency to combine material in new ways and to see relatedness between divergent stimuli". In addition, the variety of interpretations brings about the awareness of more alternatives and additional ways to combine and relate different topics.

Amabile and Kramer (2007:368) conducted comprehensive research into knowledge workers' experiences during their daily activities and how those experiences impacted on their performance. During a period of three years they collected almost 12 000 diaries from 238 employees in seven companies. This study (Amabile & Kramer, 2007) builds evidence of the link between positive emotions and creativity. The participants who reported positive moods were likely to report over 50 % higher creativity on the same day. Fredrickson exemplifies the relationship between positive emotions and creativity by saying:

Table 36. Examples of how the positive emotions of four types of actors in the SPC may foster the creation of positively deviant performance in terms of increased creativity.

Creativity	
The broaden-and-build theory of positive emotions and other POS theories and studies	• Broadened mind develops problem solving skills and capability to learn new things (Fredrickson, 2003:333). • Positive affect and broadened thought-action routines alter the information processing capacity and by doing so, increases the capability of attentional selection of unlike information i.e. building of creativity (Rowe et al., 2007). • Positive affect has a positive relationship with creativity in organizations (Amabile & Kramer, 2007). • Carnevale and Isen (1986) found that positive affect improved the outcomes of negotiations and enhanced the problem-solving approach to reaching a mutually beneficial agreement. • Leaders drive the energy levels and creativity of their subordinates (Atwater et al., 2009).
Results presented in Part I	• Account managers' perceptions of Workplace Climate predict customers' perceptions of Responsiveness and Empathy.
Services marketing literature	• Kopelman et al. (1990:303) suggest that productivity is created through organizational behaviors such as attachment, performance and citizenship. • Gummesson (1998) claims that productivity in the service business is created in three ways: by the supplier, by the customer and by the supplier-customer interactions. • A study by Selnes et al.'s (2003) confirmed that the interfirm knowledge sharing has a strong, positive effect on performance for both companies. • Dyer et al. (2006:705) claim that when a supplier receives productivity assistance, such as knowledge transfers from a particular customer, the productivity of that relationship is higher than with the same supplier and its other customers.

> Positive emotions prompt individuals to discard time-tested or automatic (everyday) behavioral scripts and to pursue novel, creative, and often unscripted paths of thought and action (Fredrickson, 1998:304).

Atwater and Carmeli's (2009:271) recent study of the impact of leaders on the creation of creativity at work, revealed that employees' perceptions of a supportive leader and high-quality relationship between themselves and their leaders predicted the amount of energy employees had to engage in creative tasks and for creativity to emerge. However, they also found that feelings of energy were especially important in cases when trying to involve employees whose jobs ordinarily demanded less creativity. Their research data was collected from 193 employees in several Israeli organizations.

The second row in Table 36 consists of a summary of the results presented in Part I that could be related to creativity. The results presented in Part I showed that account managers' perceptions of their Workplace Climate were directly impacted on their perceptions of Internal Quality and their Personal Engagement and indirectly by their perceptions of their Supervisor. Furthermore, the results presented in Part I showed that account managers' perceptions of Workplace Climate predicted customers' perceptions of employees capability to express Responsiveness and Empathy. As mentioned earlier, Responsiveness and Empathy refers to account managers' willingness to help and their caring and individualized attention towards customers.

These results can be interpreted and elaborated through the means provided by the broaden-and-build process presented in Figure 30 and other literature references. These theories (Folkman, 1997; Fredrickson, 2003b) indicate that an individual's experiences of positive meaning and positive emotions are fostered by positively deviant behaviors, such as helping others and appreciation of other members in the organization. In the present case, when supervisors and peers exhibit positively deviant behaviours (such as helping the account managers and showing appreciation to them), they also impact positively on the account managers' experiences of their Workplace Climate (figure 26) and according to the theory (Folkman, 1997) enable them to experience positive meaning and positive emotions. Account managers' positive emotions, in turn, foster the creation of their creativity (Amabile et al., 2005). In addition, customers may catch the positive emotions of account managers through the emotional contagion process, as suggested by Pugh (2002) and the increased positive emotions of customers, in turn, may generate their creativity.

In addition, the results presented in Part I may also indicate that account managers' positively deviant behaviors could have impacted on customer perceptions and thus created positive emotions among them. Thus the broaden-and- build processes, and positively deviant behaviors in particular, of all four types of actors in the SPC are important in creating positive meaning and positive emotions that build personal resources such as problem solving skills, creativity and learning.

Creativity and learning are tightly interconnected and learning has been identified as one of the predictors in the creation of productivity (Dyer et al., 2006). The third row in Table 36 presents SPC studies relating to learning and productivity creation in supplier-customer relationships (Dyer et al., 2006; Gummesson, 1998; Kopelman et al., 1990; Selnes et al., 2003). As mentioned earlier, according to Amabile et al. (2005:368) creativity refers to the process of generating new ideas or solving problems as well as to actual new idea or solution creation. The definition provided by Amabile et al. (2005) refers to a key element in learning capability, the understanding of complexity (Senge, 2006). Senge (2006:xiii) describe three core learning capabilities for working teams, who need one another to generate an outcome: aspiration, reflective conversation and understanding complexity. In a service context, creativity can be seen as an important enabler of both organizational learning (Senge, 2006) and relationship learning (Selnes et al., 2003).

Studies on organizational learning provide a comprehensive means of understanding what drives individual learning and behavior in organizations. Senge describes the circumstances how organizational learning actualizes:

> Organizations where people continually expand their capability to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together (Senge, 2006:3).

Senge (1990) defines five disciplines that drive organizational learning: personal mastery, mental models, shared vision, team learning and systems thinking. He defines personal mastery as an individual capability to maximize the opportunities he/she has inside him/herself. Mental models drive individual thinking and

perception regarding targets that are achievable and important to an individual. Shared vision, i.e. a common vision and target, is a necessity for achieving common goals. The fourth discipline, team learning, is the ability to learn together and finally the fifth discipline, systems thinking, is the ability to see the human systems around oneself and the ability to understand the embedded relationships and connections.

Organizational learning in a service context could refer to knowledge creation to produce new processes and products within the service organization. Relationship learning, in turn, refers to joint supplier-customer learning activities, such as facilitation of information exchange, development of common learning arenas and related behaviours (Selnes et al., 2003).

Productivity and learning are seen as important elements for successful service businesses (Dyer et al., 2006). Grönroos and Ojasalo (2004:414) go as far as claiming that " managing productivity is seen as a mutual learning experience, where the service provider and the customer are aligning their resources and production and consumption processes to each other".

The suggestion of this thesis is that the broaden-and-build processes of the four types of actors in the SPC enhance the creation of individual level positively deviant performances such as learning and creativity which will impact on the creation of positively deviant organizations as a means of increasing quality and productivity.

6.5.4 Seeing the Bigger Picture

Table 37 consists of items related to the fourth individual level positively deviant performance, seeing the bigger picture. Organizations as well as the service profit chain can be described as a special type of system based on Ackoff's definition: "a system is a set of interrelated elements" (1999:48). His description of a systems approach emphasizes the importance of the interactions between different parts of the system, in this case the four groups of actors in the SPC. According to Grönroos (2008:306) a service business consists of interactions between the suppliers and its customers through mutual engagement in the value-generating processes and thus directly and actively influences these processes. Hence, the systems approach is a relevant perspective to be included in the services context.

> The systems approach to problems focus on systems taken as a whole, not on their parts taken separately. Such an approach is concerned with total-system performance even when a change in only one or a few of its parts is contemplated because there are some properties of systems that can only be treated adequately from a holistic point of view. These properties derive from the relationships between parts of systems: how the parts interact and fit together. In an imperfectly organized system, even if every part performs as well as possible relative to its own objectives, the total system will often not perform as well as possible relative to its objective. (Ackoff, 1999:46)

The systems approach, in organizational settings in particular, should be seen as an active process rather than a static framework (Luoma, 2009:16; Senge, 2006). This process is called systems thinking. According to Senge (2006:69) systems thinking is a discipline for seeing the whole, it is a framework for see-

ing the interrelationships within that whole and it enables understanding of the complexity of these interrelationships (Senge, 2006:xiii).

> According to a widely held understanding of the systems idea, systems thinking means an effort to "look at the whole" of an issue, e.g., to include the entire relevant problem environment in one's definition of a design problem (Ulrich, 1993:583).

Thus the capability of the four types of actors in the SPC to see the bigger picture and not to focus on the optimization of their own performance is vital for the maximization of the overall performance in SPC

Table 37. Examples of how the positive emotions of four types of actors in the SPC may foster the creation of positively deviant performance in terms of increased capability to seeing the bigger picture.

Seeing the bigger picture	
The broaden-and-build theory of positive emotions and other POS theories and studies / Systems thinking and Systems intelligence	• Positive emotions broaden the scope of attention and increase the capability to adapt a global visualizing view compared to a local visualizing view (Fredrickson, 2003:333) • Broadened mind takes a "big-picture" view, attending to the general outline of images rather than the details (Fredrickson et al., 2005a). • Carnevale and Isen (1986) found that in negotiations between sellers and buyers, those with positive affect were more capable in seeing the situation from the other person's perspective, compared to the control group. • The concepts of systems thinking (Jackson, 2000; Senge, 2006) and systems intelligence (Hämäläinen & Saarinen, 2004) recognize bidirectional dynamics between an individual and the system. Individuals are seen as both agents and subjects within the system. • The notion of systems intelligence (SI) describes individuals as actors in human systems, whereby he/she understands his/her own influence upon the system as well as the influence the system has upon him/her (Hämäläinen & Saarinen, 2004). • Luoma (2009) suggests that positivity in team interactions enhances positive emotions among team members and enlarges systems thinking abilities and team performance (Losada, 1999).
Results presented in Part I	• Results presented in Figure 26 showed that account managers perceptions of their Workplace climate predicted customer perceptions of service quality. • Results presented in Figure 25 showed that significant and positive links between field service engineers' perceptions of the behaviors of their supervisors, peers and their Personal Engagement impacted on customers' perceptions of the service quality provided by them.
Services marketing literature	• Studies have verified that emotions are contagious between service company employees and their customers (Hennig-Thurau et al., 2006; Pugh, 2001). • At its best co-creation means creation of interactive productivity which is created when the service provider and the customer are interdependent and gain mutual benefit from their interactions (Gummesson, 1998).

The first row in Table 37 presents studies of how positive emotions support the seeing of the bigger picture, as understood in systems thinking. Fredrickson and Branigan (2005a) examined the broaden-and-build theory's hypothesis that

positive emotions broaden the scope of attention. Their study consisted of a two step experiment using film clips to induce positive, neutral and negative emotions among 104 university students. In the first experiment students were asked to write down which of the given 9 emotions they felt strongest after watching a specific film clip. The breadth of attention was assessed using eight different configurations of triangles and square elements. In the second experiment, after watching the same film clips, they were asked to choose a configuration being closest to the standard configuration, a triangle made up of triangular elements. Those participants reporting experiences of positive emotions picked up a triangle made up of square elements. This global-local visual processing test of Fredrickson and Branigan (2005a) confirmed that positive emotions broaden the scope of attention as hypothesized in the broaden-and-build theory.

In addition, research by Carnevale and Isen (1986) found that positive affect facilitated the negotiation process and improved the outcomes of bargaining processes in face-to-face negotiations between sellers and buyers. In their study, people who had an induced positive affect reported enjoying the negotiating process and were eager to strive for the optimal solution possible for each party. Furthermore, those in the positive affect condition applied a problem-solving approach and they were also more capable of seeing the situation from the other person's perspective, compared to the control group. In contrast, the control group's negotiations outcome was not only significantly lower, but they also broke up negotiations without reaching an agreement.

As was discussed earlier, the service profit chain is a special type of system consisting of interrelated elements, in this case behaviours of those acting in the system. As Sterman (2000:4) puts it

> ...systems thinking – the ability to see the world as a complex system, in which we understand that "you can't just do one thing"- and that "everything is connected to everything else".

With this in mind, concepts of systems thinking (Senge, 2006) and systems intelligence (SI) (Hämäläinen & Saarinen, 2004) recognise bidirectional dynamics between an individual and the system. Individuals are seen as both agents and subjects within the system. The notion of systems intelligence (SI) describes individuals as actors in human systems, whereby he/she understands his/her own influence upon the system as well as the influence the system has upon him/her (Hämäläinen & Saarinen, 2004). Hämäläinen and Saarinen (2007:299) argue that the science of the positive such as POS and positive psychology is the natural context for systems intelligence. One example of such an application has been provided by Luoma (2009). He integrated systems thinking and the broaden-and-build theory of Fredrickson (1998, 2001) with team performance. In his recent thesis, Luoma speculates, that the concept of systems thinking (e.g., Senge, 1990) provides a link between positive emotions and high performance.

The results presented in Part I showed that account managers' perceptions of their Workplace Climate were directly impacted on their perceptions of Internal Quality and their Personal Engagement and indirectly by their perceptions of their supervisors. Furthermore, the results presented in Part I showed that account managers' perceptions of Workplace Climate predicted customers' perceptions of employees' capability to express Responsiveness and Empathy.

These results can be interpreted and elaborated through the means provided by the broaden-and-build process presented in Figure 30 and other literature references. These theories (Folkman, 1997; Fredrickson, 2003a) indicate that an individual's experiences of positive meaning and positive emotions are fostered by the positively deviant behaviors, such as helping others, appreciation and unselfishness, of other members in the organization. In the present case, when the supervisors and peers exhibit positively deviant behaviours (such as helping the account managers, showing appreciation to them and being unselfish), they also impact positively on the account managers' experiences of their Workplace Climate (figure 26) and, according to the theory (Folkman, 1997), enable them to experience positive meaning and positive emotions. Account managers' positive emotions, in turn, foster the creation of their capability to see the bigger picture (Fredrickson, 2003b). In addition, customers may catch the positive emotions of account managers through the emotional contagion process, as suggested by Pugh (2002) and the increased positive emotions of customers, in turn, may create their capability to see the bigger picture. Moreover, increased positive emotions of four types of actors in the SPC, according to theory (Fredrickson, 2003b), may increase their capability to see the bigger picture and thus foster their systems intelligence acts (Hämäläinen & Saarinen, 2004). This may impact on the co-creation of the overall value in the SPC, in such away thus benefiting all.

The third row in Table 37 presents some examples of services marketing literature that recognizes the value of certain capacities in the co-creation of the relationship such as quality, learning and productivity, being key enablers for successful relationships between suppliers and customers (Grönroos et al., 2004; Gummesson, 1998; Selnes et al., 2003). Furthermore, several researchers have found evidence that emotions are contagious between suppliers' employees and their customers (Hennig-Thurau et al., 2006; Pugh, 2001).

To summarize, the four examples presented in this section highlighted the importance of individuals' positively deviant behaviors in the creation of positively deviant performances in B-to-B service businesses such as trust in self and others, feeling of oneness, creativity and seeing the bigger picture. Thus this thesis suggests that the broaden-and-build processes of several actors such as supervisors, employees, peers and customers may have a major impact on fostering the creation of positively deviant service businesses.

The next section presents examples of those positively deviant performances fostered by the positively deviant behaviors of the individuals, which have been examined in other contexts, though not yet in the B-to-B service context.

6.6 POS Theories and Studies and Positively Deviant Behaviors in the SPC

As discussed in the previous section, positively deviant behaviours, such as appreciation, gratitude, helping others, trustworthiness and unselfishness within the four types of actors in the SPC are likely to foster the creation of positively deviant performances in service businesses.

The upper part of Figure 31 presents examples of existing POS studies and theories and other related literature that may support each actor in the SPC in promoting his/her individual positively deviant behaviors. These behaviors may

SUPERVISORS	EMPLOYEES	PEERS	CUSTOMER
Broaden-and-build theory of positive emotions (Fredrickson 1998, 2001, 2003) **Positive leadership strategies** (Cameron 2008) **Servant leadership** (Sendjaya et al., 2008, Spears et al. 2004, Liden et al. 2008) **Authentic leadership** (George et al. 2003, Shirey 2006, Avolio et al. 2009)	**Broaden-and-build theory of positive emotions** (Fredrickson 1998, 2001, 2003) **Work engagement** (Demerouti et al. 2001, Bakker et al. 2003, Hakanen 2008, 2009, Salanova et al. 2005, 2006, Macey et al. 2009) **Systems intelligence** (Hämäläinen & Saarinen 2004-2010)	**Broaden-and-build theory of positive emotions** (Fredrickson 1998, 2001, 2003) **High performing teams** (Losada & Heaphy 2004) **High quality connections (HQC)** (Dutton & Heaphy, 2003) **Positive Organizational Network Analyses (PONA)** (Baker et al. 2003, Cross et al. 2003) **Interaction ritual theory (IR)** (Collins 2004)	**Relationship Broaden-and-build theory of positive emotions** (Fredrickson 1998, 2001, 2003) **High quality connections (HQC)** (Dutton & Heaphy, 2003) **Positive Organizational Network Analyses (PONA)** (Baker et al., 2003, Cross et al. 2003) **Interaction ritual theory** (Collins 2004)
Individuals' positively deviant behaviors create positively deviant performances			
Positively deviant performance fostered by supervisors' positive emotions and positively deviant behaviors **Emotional well-being** (Fredrickson et al. 2002) **Trust between self and other** (Dunn & Schweitzer 2005) **Flourishing workplaces** (Cameron 2008, Avey 2006, Fredrickson 1998-2009) **Engagement (increased job resources among subordinates)** (Demerouti et al. 2001, Bakker et al. 2003)	**Positively deviant performance fostered by employees' positive emotions and positively deviant behaviors** **Emotional well-being** (Fredrickson et al. 2002) **Broadened mind** (Fredrickson 2004) **More productive** (Wright et al. 2004, Zelenski 2008) **Better performance** (Bryan & Bryan 1991, Staw & Barsade 1993) **More possibilities** (Fredrickson & Branigan 2005) **More trust** (Dunn & Schweitzer 2005) **Effectiveness** (Collins 2004) **More Creative** (Fredrickson 2003, Amabile et al. 2007, Rowe et al. 2007) **Resilience** (Fredrickson 2003, Youssef et al., 2007; Wright 2005) **Less absenteeism** (Avey 2006) **Flow** (Csikszentmihalyi 1990, Bakker et al. 2003, Salanova et al. 2007) **More engaged – better performance** (Harter & Schmidt 2006, Bakker 2009, Xanthopoulou et al. 2009)	**Positively deviant performance fostered by peers' positive emotions and positively deviant behaviors** **Feeling of oneness** (Waught et al. 2006) **More trust** (Dunn & Schweitzer 2005, Bolino et al. 2002) **More emotional energy** (Collins 2004) **Increased job resources among peers** (Demerouti et al. 2001, Bakker et al. 2003) **Engagement and flow among peers** (Bakker et al. 2003, Salanova et al. 2007, Hakanen 2008) **Increased vitality, positive regard & mutuality** (Dutton & Heaphy, 2003) **More connectivity** (Losada et al. 2004, Cross et al. 2003, Baker et al. 2003) **Increased energy among peers** (Cross et al. 2003, Baker et al. 2003) **Higher team performance** (Losada and Heaphy, 2004, Dutton et al. 2003, Baker et al.2003)	**Positively deviant performance fostered in customer relationships by positive emotions and positively deviant behaviors** **More possibilities** (Fredrickson & Branigan 2005) **Feeling of oneness** (Waught et al. 2006) **More trust** (Dunn & Schweitzer 2005) **More emotional energy** (Collins 2004) **Creativeness** (Rowe, Hirsch, & Anderson 2007). **Increased vitality, positive regard & mutuality** (Dutton & Heaphy, 2003) **Better negotiations** (Kopelman, Rosette, & Thompson 2006) **Productivity in supplier-customer interaction** (Gummesson 1998, Ojasalo 2003, Grönroos 2007)

Figure 31. A summary of existing theories and studies that could foster the creation of positively deviant behaviors and performances of the four types of actors in the SPC.

lead to the cultivation of positively deviant performances thus gaining benefits for the entire service business. The lower part of Figure 31 provides examples of those POS theories and studies that have verified the impact of positive emotions and consequently positively deviant behaviors in the creation of positively deviant performances in various contexts.

The upper part of Figure 31 provides examples of such positively deviant behaviors that may enhance positively deviant performances in the SPC. Further to this, Figure 31 suggests, based on existing research (Folkman, 1997; Fredrickson, 2003a; Spreitzer et al., 2003) that these positively deviant behaviors of the four types actors: supervisors, employees, peers and customers can create positively deviant performance in SPC, both on an individual actor level and on the organizational level. Figure 31 proposes the idea that supervisors applying leadership strategies such as: positive leadership strategy (Cameron, 2008), authentic leadership strategies (Avolio, Walumbwa, & Weber, 2009; George & Bennis, 2003; Shirey, 2006) and servant leaderships strategies (Liden, Wayne, Zhao, & Henderson, 2008; Sendjaya, Sarros, & Santora, 2008; Spears & Lawrence, 2004) may apply such positively deviant behaviors that create positive meaning and positive emotions among their subordinates. Furthermore, Figure 31 proposes POS studies that recognize positively deviant behaviors such as personal engagement (Kahn, 1990), work engagement (Bakker et al., 2003; Demerouti et al., 2001; Hakanen, 2009; Hakanen, Perhoniemi, & Toppinen-Tanner, 2008; Salanova et al., 2005), explicated in Section 3.4 and systems intelligence (Hämäläinen & Saarinen, 2004). Systems intelligence provides a potential framework for individuals to cultivate positively deviant performances through understanding of their own influence upon the system as well as the influence the system has upon him/her (Hämäläinen & Saarinen, 2004). Some examples of existing POS studies that include elements of how peers may cultivate the creation of positively deviant performances in an organization are: high performing teams as studied by Losada and Heaphy (2004), studies on high-quality connections (Dutton & Heaphy, 2003), positive organizational network analyses (Baker, Cross, & Wooten, 2003; Cross, Baker, & Parker, 2003) and interaction ritual theory by Collins (2004). These theories could be seen as generally applicable in the supplier-customer interaction and they may help towards fostering such customer relationship building that could create positively deviant performances.

The lower part of Figure 31 presents individual level positively deviant performances such as emotional well-being, flourishing, psychological resilience, personal resources and trust (Fredrickson, 2003a). Four of the positively deviant performances: trust in self and others, the feeling of oneness, creativity and seeing the bigger picture were discussed in Section 6.5. POS literature has studied several positively deviant performances that can be theorized as supporting the value creation in the supplier-customer co-creation process. The relevant outcomes of positively deviant performances include: more creativeness (Rowe et al., 2007), better productivity (Wright et al., 2004), high performing teams (Losada and Heaphy 2004), flourishing workplaces (Fredrickson & Losada, 2005b), better resilience (Cohn et al., 2009b; Fredrickson et al., 2003; Tugade et al., 2004) and less absenteeism (Avey et al., 2006). Additionally, positive emotions increase vitality, positive regard and mutuality (Dutton & Heaphy, 2003), increase productivity in supplier-customer interactions and provide

a framework for better negotiation results (Kopelman et al., 2006). Figure 31 summarizes how the positively deviant behaviors of several actors: supervisors, employees, peers and customers may foster the creation of positively deviant performances in the SPC.

In addition, in Appendixes 15, 16, 17, 18 and 19 some examples are provided of how supervisor, employee and peer could, through their positively deviant behaviors such as those presented in Figure 31, foster an individual employee's assessment of the measurement items in the research data. These examples provide practical instructions based on the POS theories and studies of how supervisors, peers and employees could impact on an individual employee's assessment of a certain measurement item in the research data, and thus have a positive impact on customers' perceptions of service quality.

The next section provides a new linkage model, the model of positively deviant B-to-B service businesses, which incorporates the theory testing results of part I with POS theories and studies. In addition, a new concept, a climate for positivity, is introduced as a conceptual instrument beneficial for the cultivation of positive emotions and positively deviant behaviors in service organizations.

6.7 The Model of Positively Deviant Service Businesses

Positive organizational scholarship has not been applied to studying B-to-B services. As a conceptual contribution, the current thesis seeks to fill that gap by introducing a new model, the model of positively deviant service businesses. This model (figure 32) integrates Fredrickson's (1998; 2001) broaden-and-build theory of positive emotions and other POS theories and studies and services marketing literature. This model is built on the modified linkage model presented in Part I, in Figure 26 (account managers). The novel model of positively deviant B-to-B service businesses in Figure 32 puts forward a potential perspective for building positively deviant service businesses through individual actor's positively deviant behaviours. These positively deviant behaviours foster the creation of positive meaning in interactions, as described in Figure 30, Chapter 6, by enabling the creation of positive emotions and thereby enabling positively deviant performances to occur.

In Section 6.5, four positively deviant performances were discussed: trust in self and others, creativity, the feeling of oneness and seeing the bigger picture. In addition, each of the four items was analysed using three perspectives: the broaden-and-build theory of positive emotions and other POS theories and studies, results from Part I and services marketing literature. Consequently, a link could be established between these three perspectives.

The new model presented in Figure 32 suggests that the positively deviant performances of the four groups of actors in the service profit chain create a climate for positivity that facilitates the creation of positively deviant service organizations. This novel concept, *a climate for positivity*, is an organizational state in which individuals' positively deviant behaviours are cultivated, supported and rewarded (to be discussed more fully in the next section).

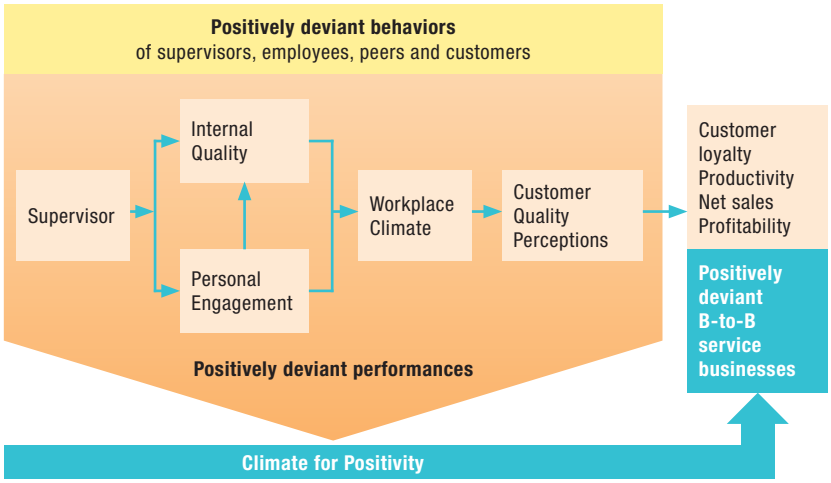

Figure 32. The model of positively deviant B-to-B service businesses.

Figure 32 indicates how the positively deviant behaviours of the four types of actors in the SPC (i.e. supervisors, employees, peers and customers) can foster the creation of positively deviant performances that may consequently generate a climate for positivity which ultimately fosters the formation of positively deviant B-to-B service businesses. To elucidate the model of positively deviant service businesses, a team member's positively deviant behavior such as: appreciation, gratitude and helping others transforms ordinary events involving other team members into positive events and by doing so, creates positive emotions in the team. Subsequently, positive emotions foster the creation of positive deviant performances resulting in outcomes such as flourishing workplaces (Fredrickson & Losada 2005b), high performing teams (Losada & Heaphy, 2004), more emotional energy in the team (Dutton & Heaphy, 2003), more trust (Dunn & Schweitzer, 2005) and the feeling of oneness (Waugh & Fredrickson, 2005). These positively deviant performances, as proposed by the model in Figure 32 and presented in detail in Table 38, foster the creation of a climate for positivity which provides a platform for positively deviant B-to-B service businesses to emerge.

The model of positively deviant service businesses in Figure 32 suggests that the positively deviant behaviors embedded in the broaden-and-build theory of positive emotions and other POS theories and studies presented in Figure 31 can build a unique competitive advantage for a service business. This competitive advantage is embedded in the minds, behaviors and interactions of both those working in and working for the suppliers' and customers' organizations. It seems safe to conclude that positive emotions and positively deviant behaviors when fostered appropriately, may lead towards positively deviant B-to-B service businesses that cannot be imitated or copied by the competitors.

Table 38 exemplifies in more detail the positively deviant performances originating from positively deviant behaviors of several actors in the service profit chain.

Table 38. Positively deviant performances originating from positively deviant behaviours by the actors in the SPC

Individual level:	Team/organizational level:	In customer relationships:
• Emotional well-being • Broadened mind • Trust in self and others • Feeling of oneness • More creativity • Seeing the bigger picture • More possibilities • Better performance • Higher productivity • Higher resilience • Less absenteeism • Increased work engagement and experience of flow	• Flourishing workplaces • Feeling of oneness • Seeing the bigger picture • More emotional energy • Higher connectivity • Better team performance	• More possibilities • Feeling of oneness • Trust in self and others • Seeing the bigger picture • More creativity • Better negotiations • Higher productivity • Higher customer service quality • Higher customer loyalty • More profitable service businesses

The two first columns in Table 38 summarizes those positively deviant performances found in existing POS studies and theories that have been recognized as to emerging through experiences of positive emotions among human beings. The third column provides examples of potential elements originating from positively deviant behaviors in employee-customer interactions that may drive the creation of positively deviant service businesses.

To summarize, the model of positively deviant service businesses indicates how the POS research can open new dimensions in the service profit chain research leading towards more positively deviant service businesses. This may happen through enhanced positively deviant performances, such as employee well-being, flourishing workplaces and higher customer quality impacting on the creation of a climate for positivity.

In the next section, a new concept, a climate for positivity, will be explicated in detail. Furthermore, in Section 7.2.1 the implications for leadership practices are provided for service organizations striving for extraordinary business results in the form of positively deviant service businesses.

6.8 Climate for Positivity

The model of positively deviant service businesses in Figure 32 emphasizes the importance of the positively deviant behaviors of various actors in the service profit chain. Moreover, this model suggests that positively deviant performances foster the creation of a climate for positivity which in turn enables the creation of positively deviant service businesses. Before the new concept of a climate for positivity is explained, it is worthwhile discussing how organizational climate emerges.

According to Schneider (2005) multiple climates can exist within a single organization and he suggests that organizational climates are connected with a specific reference, such as a climate for service, support, safety and innovations. Figure 33 was drawn to distinguish the interdependences between different concepts in organizational culture and climate literature (see more in section 3.3). In addition to this, the socialization process (Kopelman et al., 1990) and interactions (Fredrickson, 2003) are found to transmit human experiences between different layers of organizational culture and climate.

Several researchers suggest that societal culture is the foundation of organizational culture (Kopelman et al., 1990; Schein, 2000). Additionally, according to Schein (2000) organizational culture contains the underlying assumptions that form and dictate organizational climate and are expressed in the structures, values and beliefs of an organization. Glisson (2007) suggests (chapter 3, Figure 13) that organizational climate is an artifact of organizational culture, mediated by each individual's psychological climates. Psychological climate is an individual employee's perception of how the work environment impacts on his or her psychological and physical well-being (James et al., 1974).

In other words, individuals create their personal perceptions of the organization through their individual psychological climate. Organizational climate, in turn, is the shared perceptions of its members, all of whom have their individual lenses that filter and drive their behavior and performance (Schneider, 1990). Additionally, each individual can impact on other members' emotions and meaning at work through their behaviors in interactions (Fredrickson, 2003).

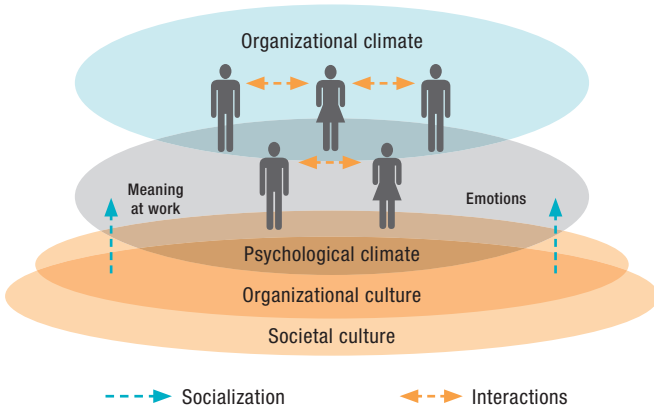

Figure 33. Societal culture, organizational culture, psychological climate and organizational climate.

According to Salancik et al. (1978) the socialization process and interactions are the transmitters between organizational culture, climate and individuals' emotions and behaviors. Figure 33 presents, firstly, how societal and organizational cultures direct each individuals' psychological climate through socialization (Kopelman et al., 1990). The socialization process guides employees thus enabling them to fit into a new organization or job, i.e. brings about those invisible elements in the organizational culture that reflect the importance of expected behaviors (Salancik et al., 1978:227). In addition, the socialization process is a process through which an individual learns the attitudes, behaviors and knowledge that are expected of him/her in a certain role (Chao, 2005).

Figure 33 also indicates how the formation of the organizational climate begins and is nurtured through the interactive patterns of the members of the unit (Lindell et al., 2000; Rentsch et al., 2008; Schneider et al., 1980). Thus, the quality of interactions performs a vital role in building the organizational climate through individual psychological climates, as illustrated in Figure 33.

The broaden-and-build process presented in Figure 30, in Chapter 6, emphasized the role of the positively deviant behaviors of the members in the organization in the process of transforming ordinary events into positive events (in the sense of Folkman, 1997). Positive events generate positive meaning through experiences of competencies, significance, involvement, achievements and social connections within those interacting (Fredrickson, 2003). Moreover, Fredrickson (2003) claims that those positive events that carry positive meaning generate positive emotions within both parties involved in the interaction.

The suggestion of this thesis is that the broaden-and-build theory of positive emotions (Fredrickson, 1889, 2001), the study of Folkman (1997) and organizational culture and climate elements shown in Figure 33 build a foundation for the understanding of how interactions can create positive meaning and positive emotions, which in turn, foster the creation of positively deviant performances and ultimately a climate for positivity.

To summarize, positively deviant behaviors between members in an organization play a key role in cultivating employees' perceptions of their organization (psychological climate) which in turn shapes the organizational climate through their positive emotions.

Based on the organizational climate literature illustrated in Figure 33 and the broaden-and-build process presented in Figure 30, I have envisioned a new systemic concept, a climate for positivity. The climate for positivity is an organizational condition in which individuals' positively deviant behaviours are cultivated, supported and rewarded. A climate for positivity emerges from individuals' positive emotions and positively deviant performances that impact on and reinforce the climate for positivity. A climate for positivity is an organizational condition, where positive emotions are experienced and expressed and guiding individuals' interactions. Supervisors have a key role in establishing a framework in which a climate for positivity can occur through such means that cultivate, support and reward such behaviors which employees perceive as positively deviant behaviors. However, each individual is responsible for his/her own behavior in each interaction, as depicted in Figure 34 below.

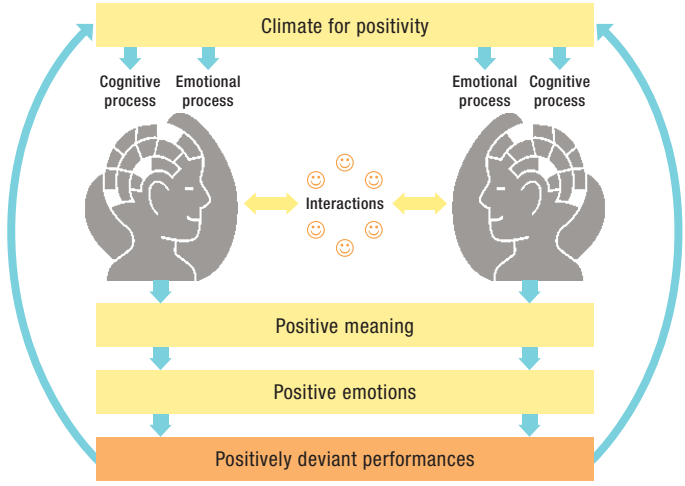

Figure 34. Positively deviant performance furnishes the creation of climate for positivity (inspired by Folkman 1997, McShane and Glinow, 2007 and Fredrickson 2003).

Figure 34 is built on studies by McShane (2007:69) on cognitive and emotional processes, on the broaden-and-build process presented in Figure 30 and on organizational culture and climate research presented in Section 3.3 and illustrated in Figure 33. Figure 34 gives an outlining how an individual's cognitive and emotional processes and modes of interacting link with the creation of climate for positivity. Each interaction is an opportunity to create positive meaning and positive emotions for the other through positively deviant behavior, through transforming an ordinary event to a positive event (Folkman, 1997). The broaden-and-build process, explicated in Section 6.4, argued that positive emotions build enduring personal resources, which in turn create positively deviant performances. Positively deviant performances, such as flourishing workplaces, trust in self and others, the feeling of oneness, creativity and seeing the bigger picture reinforce the creation of a climate for positivity as suggested in Figure 34.

In summation, each actor: supervisor, employee, peer and customer[26] can cultivate the climate for positivity through their positively deviant behaviors. From this perspective, each interaction is seen as an opportunity to nurture the human potential in other members of an organization and its customers through the application of positively deviant behaviors. These interactions can transform ordinary events into positive events by creating positive meaning and positive emotions among participants. Moreover, the positive emotions of the members in an organization foster the creation of a climate for positivity through a reinforcing loop that strengthens the possibility for more positive events to take place.

Several researchers have noticed the importance of leadership in establishing the basis for on which service businesses can succeed (Schneider et al., 2005; Schneider et al., 1998b). The implications arising from this thesis on leadership practices are discussed in Section 7.2.1.

In the next chapter, discussion and conclusion, methodological and theoretical contributions are discussed and practical implications are provided.

26 Some examples are provided, in Appendices 15, 16, 17, 18 and 19, how supervisors, peers and employees can impact on the individual employee's assessment of the measurement items in the research data. These examples are grounded in existing studies of positive organizational scholarship.

7 Discussion and Conclusions

The contributions of this thesis have demonstrated that linkages between employee perceptions of their organization predict customer perceptions of service quality. Furthermore, this thesis has showed that the type of interactions service company employees have determines the structure of the linkage model. Research data from two employee groups, field service engineers and account managers, were utilized to test the employee and customer perceptions in a B-to-B service context. Thus the theory testing revealed that the boundary conditions, the physical and psychological closeness of employees and customers, in particular, determine the structure of the linkage model. Two diverse theory testing results were found: field service engineers' Personal Engagement predicted customers perceptions of Reliability and Assurance provided by employees, whereas account managers' perceptions of Workplace Climate predicted customers perceptions of Responsiveness and Empathy, Reliability and Assurance provided by employees. Thus, these results suggested that the factors predicting customer perceptions of service quality are based on the type of interaction between employees and customers. Moreover, these findings question the categorization of B-to-C and B-to-B in the linkage research and rather suggest that categorization should be based on the type of interactions, as is the case in this research with field service engineers and account managers. Thus, a modified linkage model was introduced to the services context, in Figure 26 in Chapter 5, in cases where employees and customers do not have physical and psychological closeness in their interactions.

In addition, Part II of this thesis proposes the incorporation of positive organizational scholarship studies and theories and broaden-and-build theory of positive emotions in particular, into service profit chain thinking. It is suggested, in Part II of this thesis that POS studies and theories could contribute to the services marketing literature and by doing so contribute into the creation of positively deviant service businesses.

In the theory building part, in Chapter 6, the broaden-and-build process was first explained using the broaden-and-build theory of positive emotions (Fredrickson, 1998; Fredrickson, 2001) and the study of positive meaning by Folkman (1997). The broaden-and-build process in Figure 30 explicated how positive behaviors can transform ordinary events into positive events that carry positive meaning and create positive emotions among participants. In addition, positive

emotions promote positively deviant behaviors and positively deviant performances and reinforce a climate for positivity, as presented in Figure 34. Four examples of positively deviant performances were explicated and discussed using the results presented in Part I and services marketing literature. Finally, a model of positively deviant service businesses and a new concept, a climate for positivity was introduced.

In addition, two methodological contributions are provided. Firstly, the conceptualization of each construct in the linkage model as depicted by Bowen (2008) was presented in Chapter 3 and secondly a method was established to build the correspondence between the empirical data and the linkage model. This operationalization method, presented in Section 5.2, is applicable to any similar type of research using existing survey data. Further to this, the documentation of the cross-disciplinary evolution of the service profit chain and linkage research in Section 2.4 is seen as a theoretical contribution as this documentation was a prerequisite for the theory testing phase.

In the following paragraphs, each of the research questions are discussed after taking into account the results presented in this study and the related implications are suggested for the existing theoretical discussion.

7.1 Research Questions and Findings

The first research question relates to the testing of the existing theory, the linkage model depicted by Bowen. The detailed explication of the theory testing results was presented in Part I, Section 5.10, due to the structure of the thesis. The theory testing was executed using employee data from two different employee groups: account managers and field service engineers. These two employee groups have different types of interactions with the customers: account managers contact customers most often by phone or email, whereas field service engineers conduct their work on the customer premises.

Research Question 1 (RQ1): How do the linkages between employee and customer perceptions in a B-to-B service context differ for employee groups having different types of interactions with customers?

Research results presented in Part I showed that all the linkages of the original linkage model could be verified using the field service engineer data as presented in Figure 25. The results showed that the Personal Engagement of the field service engineers predicted customers' perceptions of Reliability and Assurance. Additionally, all the internal linkages between field service employees' perceptions of their organization were positive and significant. However, as shown in Figure 24, no significant linkages were found between account managers' Personal Engagement and customers' perceptions of service quality provided by account managers. Thus, the results presented in Part I suggested that the physical and psychological closeness determines the order of the constructs in the linkage model. In this case the boundary condition refers to field service engineers having a physical and psychological closeness with the customers, this closeness being the norm in B-to-C contexts, but not necessarily in a B-to-B. Indeed, in the organization studied here, account managers most often contact customers via

telephone or email, as is often the case in a B-to-B context. Since the theory testing using the account manager data did not fit into the original linkage model, additional analysis was carried out with a changed order of the two constructs of the linkage model.

Research Question 2 (RQ2): What kinds of modifications are suggested to the linkage model in the B-to-B service context based on the results of the theory testing?

Testing of the modified linkage model using account managers data revealed that when Personal Engagement and Workplace Climate factors were employed in a reverse order, as shown in Figure 26, significant linkages were found between Workplace Climate and customers' perceptions of service quality. These results suggest a revision of the linkage model in a B-to-B service context, in cases where employee and customer interactions do not include physical and psychological closeness. In such a context, the present study showed that the way employees experience their Workplace Climate impacts on the way customers assess the performance of the supplier. Therefore, not only does the behavior of single employees matter, but even more, the whole prevailing mindset operating within the workplace. In the employee survey, the Workplace Climate consists of items such as "In my working community, we discuss the work targets together and means to achieve them", "Participation is encouraged", "Suggestions for improvements are implemented" and "The atmosphere is encouraging and supportive for new ideas". Consequently, for customers to assess the performance of the supplier positively, the employees must also experience being involved, encouraged and appreciated in the workplace. Thus, testing of the linkage model using empirical data from a B-to-B environment supports the question regarding the impact of boundary conditions on the linkage model raised by Bowen (2008) and Schneider et al. (2005).

However, this brings about the discussion of the differences between B-to-C and B-to-B. Vargo and Lusch (2011) have recently suggested that the categorization of services into B-to-C and B-to-B is obsolete. Their justification is that every actor in the service value chain, according to service-dominant logic, is a resource integrator and therefore a more valid definition would be A2A. Thus, the suggestion of this thesis is that it is not about B-to-C or B-to-B, but the types of interaction service company's employees have with their customers.

Moreover, the most recent discussions in industrial marketing management literature have highlighted the importance of the quality of the interaction with customers as the means to create human experiences (Ramaswamy, 2011), collaboration (Ballantyne et al., 2011) and the strength of relationships (Berry, 2011). The quality of interactions has been seen as new value creation possibilities for service businesses (Ballantyne et al., 2011). Research in positive psychology and especially positive organizational scholarship (POS) provides novel viewpoints of the means of fostering positively deviant service businesses through positively deviant behaviors of actors in the service profit chain.

Research Question 3 (RQ3): Based on the existing POS theories and studies, how may the broaden-and-build processes of actors involved in the SPC enable them to foster the creation of positively deviant service businesses?

The broaden-and-build process created and presented in Figure 30 in Chapter 7 highlights the importance of positively deviant behaviors in the creation of positive meaning and positive emotions in interactions which foster the creation of positively deviant performances. The theory testing in Part I showed that account managers' perceptions of their Workplace Climate predict customers' perceptions of service quality. Further to this, as was discussed earlier in this section, employees' experiences of being involved, encouraged and appreciated in the workplace have a positive impact on their assessment of Workplace Climate. According to Fredrickson (2003a:174) positive meaning at work is created by experiences of competence, achievement, involvement, significance and social connections. Thus it is justified to suggest that the positively deviant behaviors of supervisors and peers have a positive impact on employees' perceptions of Workplace Climate.

To indicate how the broaden-and-build processes of four actor groups (i.e. supervisors, employees, peers and customers) could impact on the SPC, four positively deviant performances were discussed in detail using results from Part I as integrated with some key results of services marketing literature. These four positively deviant performances were: trust in self and others, the feeling of oneness, creativity and seeing the bigger picture. These four examples do not only emphasize the importance of the broaden-and-build processes of the members of an organization, but also consolidate the role of customers as co-creators of their own services as has been put forward in several studies (Bowen, 2008; Payne et al., 2008; Prahalad et al., 2004; Vargo et al., 2008b). Propositions are provided to further elaborate on how these four positively deviant performances could be examined as part of future research.

In addition, some examples were attached in Appendices 15-19 presenting how the positively deviant behaviors of supervisors, employees and peers could shape an individual employee's assessment of a specific measurement item in the research data used in Chapter 5.

Resulting from the indications and elaborations in Chapter 6, a new model, the model of positively deviant B-to-B service businesses was introduced. This model in Figure 32 incorporates the findings of Part I with the studies and theories of POS and the broaden-and-build theory of positive emotions (Fredrickson, 1998, 2001). In addition, a new concept of a climate for positivity was introduced in Section 6.8 to emphasize the importance of positive emotions in the creation of such an organizational climate that guides organizations towards becoming positively deviant service businesses.

Thus, the model of positively deviant B-to-B service businesses offers novel aspects for SPC thinking by providing a new conceptual approach of how the positively deviant behaviors of the four types of actors: supervisors, employees, peers and customers, in the SPC can foster the creation of positively deviant performances and a climate for positivity, resulting in positively deviant service businesses. This model explicates how service organizations can cultivate the creation of positively deviant service businesses in practice, through recognizing the importance of the positively deviant behaviors in interactions within the organization as well as with customers.

7.2 Practical Implications

Two types of practical implications are suggested by this thesis: implications for leadership practices and implications for organizational survey design and related implementations.

In the next section, I will suggest some implications for leadership practices by proposing that service organizations seeking to create a climate for positivity should put emphasis on the positive means of achieving higher performance and productivity, rather than being focused on the end results only, as is often the case.

7.2.1 Implications for Leadership Practices

Leaders are the role models and lay the foundation for a climate for positivity through their own emotions, attitudes, behaviors and actions. Leaders embody the underlying assumption of what is important in the organization and in doing so, they influence the activities in the workplace through their own behaviors. It is well known, for instance, that leaders can cause a suspension within the human system and create a lack of energy in the workplace by creating fear through their inconsistent behaviors. The prerequisite for a climate for positivity to occur is that employees need to be able to trust and rely on their supervisors, opposed to being driven by fear. Fear can freeze human systems by restricting positive emotions from emerging by limiting the employees' well-being, creativeness and connectedness, all important elements in profitable service businesses.

Further to this, several researchers have emphasized the vital role of leaders in driving organizations' attention and actions towards desired outcomes (Schneider et al., 1998b; Sonpar & Golden-Biddle, 2008). In addition, the results presented in Part I in Chapter 6 showed that employees' perceptions of their supervisors' behaviors had an indirect impact on account managers' perceptions of their Workplace Climate which in turn predicted customers' perceptions of service quality. The model of positively deviant B-to-B service businesses in the previous section in Figure 32 suggested the potential in the creation of positively deviant service businesses through the broaden-and-build processes of individual actors. Therefore, a strong basis exists for proposing that leaders play an essential role in cultivating the creation of a climate for positivity through their positively deviant behaviors. This may happen through the fostering of respect, enthusiasm, compassion and forgiveness, through energizing and inspiring employees rather than controlling and focusing only on setting financial and cost efficiency targets. Table 39 provides proposals for implications of leadership practices that cultivate such positive means which foster a climate for positivity.

Table 39. Positively deviant leadership for service businesses.

	The traditional approach focuses on the ENDS	The new way focuses on the positive MEANS such as positive emotions and positively deviant behaviors	The potential NEW END- positively deviant service businesses- may happen
Leadership strategy	Authoritarian leadership	Positive, Authentic, Servant leadership strategies	Creation of positive meaning among employees through increased experiences of involvement and significance.
Management style	Telling	Listening and supporting	Creation of positive meaning among employees through increased experiences of involvement and significance.
	Blaming	Foster forgiveness and compassion, and reinforce strengths	Increased engagement among employees.
	Controlling	Trust in self and others	Mutual trust and respect
	Authority	Walk alongside	Companionship, connectedness
	Indifferent, neutral behaviors	Positively deviant behaviors and positive emotions	Create positive meaning and positive emotions among other members in the organization.
Orientation	Shareholder value	Stakeholder value i.e. that of employees', customers', the community and the nation.	Collective responsibility to achieve positively deviant performance resulting in positively deviant service businesses.
	Financial result orientation	Inspiring and energizing others, applying positively deviant behaviors in every interaction.	Climate for positivity, flourishing workplaces, high quality connections, energy networks, creativity and productivity i.e. positively deviant service businesses.

The implications for leadership practices presented in Table 39 suggest that those leaders who focus on the positive means, such as listening, inspiring and energizing others will cultivate the creation of a climate for positivity. Moreover, these leaders will most probably direct their organizations towards the creation of positively deviant service businesses. Leaders practicing traditional leadership methods may focus on achieving financial targets using strict guidelines and control systems. Examples of the characteristics of this kind of leadership strategies and managerial practices are listed in the left column of Table 39. The leadership style that has traditionally prevailed focuses on the ends not on the means. The middle column presents the suggested positive leadership approach, which focuses on means, such as positively deviant behaviors and positive emotions. This positive leadership style suggests that a new and better end result may appear if the suggested positively deviant behaviors recognized by POS studies and theories and the broaden-and build theory of positive emotions in particular, are cultivated. The desired new end result, positively deviant performances among members in the organization, is presented in the right hand column of Table 39.

Leaders applying positive means, focus on the building of shared positive meaning and a climate for positivity, they are authentic, serve their subordinates and focus on employees' strengths rather than on their weaknesses. In addition to this, they listen, respect and encourage and above all walk alongside, by showing their trust so that their subordinates and colleagues will perform to the best of their abilities. What emerges is a vision of service organizations in which leaders are the ambassadors of positivity and they energize people they interact with. As presented in Section 6.4, the creation of positively deviant service businesses is the collective responsibility of supervisors, employees, peers and customers. Individuals who are energized cultivate positively deviant behaviors in every interaction both in the workplace and with stakeholders outside the company. Novel innovations are created through the broadened mind and increased engagement of the employees.

The next section presents possible implications and areas of improvement for the current and future organizational surveys arising from this thesis.

7.2.2 Implications for Organizational Surveys

Several managerial recommendations arise from this thesis. The first concerns the implementation of a strategy to integrate all data sources: employee surveys, customer surveys and financial data for analyzing and monitoring the end-to-end service profit chain of a service company. This was not the case with the data used in this study and therefore a specific visual basic program was first created to link the employee survey data with customer survey data. Thus, in practice this would mean that the design of the surveys should support the analyses of several data sources in a common integrated manner and be part of the "managers' toolkit". This would make it possible to monitor the impacts of employees' perceptions of their organizations on customer satisfaction and company revenues.

Further to this, both quantitative and qualitative surveys should be implemented to fully understand how positively deviant behaviors of the members in the organization impact on the creation of high quality connections and positively deviant performances in the service businesses. Also, surveys assessing the customer relationship quality and brand image are important additions to the traditional customer satisfaction surveys.

In the introductory chapter, the impact of positive vs. negative communication in team interactions was discussed. Losada and Heaphy (2004) claim that a positivity/ negativity ratio of 2.9 in team communication is the threshold after which a team can become high performing. Thus, I propose that novel ways should be invented to measure the positivity/negativity ratio of the interactions in the workplace and to analyze the link to performance.

In addition, Cross and Baker (2003) have studied how the positive behaviors of the members in an organization can build energy networks which in turn predict the performance of the organization. Therefore, I propose that service organizations should apply such measurement systems that could capture the energy networks of the organization and analyze how individual members' positively deviant behaviors impact on the creation of that energy network.

Additionally, the annual employee satisfaction surveys should directly assess employees' perceptions of the quality of their key relationships in the organiza-

tion, such as the relationship with their supervisors, peers and colleagues. Furthermore, social network analyses could be utilized to emphasize the connectivity and energy levels in the organization. In brief:

- Create and implement a strategy how to monitor ongoingly the linkages between surveys assessing employee and customer perceptions, loyalty surveys and financial data.
- Build organizational surveys that enable the measurement of the entire service profit chain.
- Create organizational surveys that have measurement items based on existing theories and studies of SPC and POS.
- Define specific measurement items that assess the quality of interactions between actors in the SPC.
- Utilize both quantitative and qualitative survey methods.
- Use both annual and occasional surveys.
- Create self-assessments of individuals' well-being and level of positive emotions and compare those with the team performance.
- Measure positivity/negativity ratio and connectivity of management and other business teams.

Finally, all the surveys should be operationalized using the existing theories and studies in the relevant fields of study and the questionnaires should be comparable from year to year.

In view of the intangible nature of the service business it is vital that the evaluation of customer relationships includes surveys that assess customer loyalty. The loyalty survey data should cover both existing and former customers, as well as non-customers in order to build a full picture of the company and its associated processes. As traditional customer satisfaction surveys measure customers' perceptions of service quality only, additional measurement items could be added to cover customers' perceptions of how a supplier has been able to develop the relationship and create benefits and value for customers' own businesses.

7.3 Methodological Contributions and Limitations

7.3.1 Methodological Contributions

This thesis consists of two methodological contributions. Firstly, this thesis conceptualized each of the constructs of the linkage model depicted by Bowen (2008) using existing SPC and linkage research, something that has not been done before (chapter 4). Secondly, the correspondence between the empirical data and the linkage model was established by creating an operationalization method applicable to any similar type of research. This operationalization method was based on the comparison using measurement items from the research data and existing SPC studies. The target of the operationalization process was to ensure that the factors from the research data represented similar types of concepts such as those distinguished in the conceptualization phase of the constructs in the linkage model. The operationalization process was presented in Section 5.2. These two methodologies support the building of the theoretical contributions.

7.3.2 Limitations of This Thesis

The limitations can be divided into several areas. Firstly, this is the first effort to test the linkage model using empirical data in a B-to-B context and confirmatory research in similar context from different companies are needed to verify the results of this thesis as presented in Part I. Specifically important is to examine the impact of the boundary conditions of the linkage model, in cases of physical and psychological closeness of suppliers' employees and customers in services context. Secondly, the theory testing was based on the linkage model described by Bowen (2008), however the model used to test the linkages between employee and customer perceptions was modified using the factors originating from the research data. This is clearly a limitation originating from the use of existing survey data and not data specifically designed to test the linkage model depicted by Bowen (2008). However, the conceptualization and operationalization processes were conducted to minimize any potential bias in the interpretation. Thirdly, a clear limitation is that due to some country legislations and other business reasons, only limited detailed background information could be presented for employee and customer groups included into the research data.

Even though the research data consisted of thousands of individual level employee and customer responses, the aggregated research data contained only 38 business units. This may raise a concern about the statistical relevance of the results. However, global employee and customer research data from 38 countries in a B-to-B services context is quite a reasonable sample. In addition to this, due to the data sensitivity, no demographical background info could be provided for employee data, other than service years (years employed) in Appendix 3. A further limitation concerns the potential impact of cultural differences on the results presented in Part I of this thesis. The research data consists of 38 different business units and groups of customers in 38 different countries, the impact of cultural differences were however not taken into account.

7.4 Suggestions for Future Research

Several suggestions are provided for future research. These suggestions are, on the one hand, such that would verify the results of this thesis and on the other hand three propositions are provided to elucidate the potential in applying positive organizational scholarship studies and theories to the discussion in services marketing literature. In addition, a potential future research area is suggested to examine how customers' perceptions and behaviors may predict employees' perceptions and behaviors.

The first suggestion is to test the modified linkage model presented in Figure 26 using empirical data from another B-to-B environment to verify the results of this thesis. Moreover, it would be important to examine whether similar results could be found regarding the boundary conditions, using data from employee groups having different types of interactions with the customers, within another global B-to-B company. Secondly, the impact of cultural differences would be of an additional interest for future research.

Thirdly, the reciprocal impact of customers' attitudes and behaviors on employees' perceptions of Workplace Climate is of special interest. Salanova et al.

(2005) have studied this phenomena in B-to-C context using employee and customer data from hotels and restaurants and they found a potential reciprocal effect between service climate[27] and customer loyalty. Furthermore, several other studies suggest reciprocity in the relationship between customer satisfaction and internal organizational functioning in the B-to-C context (Ryan et al., 1996; Schneider et al., 1998b). Figure 35 illustrates a potential configuration of the theory building set-up that would examine the reciprocal effect of customers' behaviors and attitudes on employees' perceptions of their Workplace Climate.

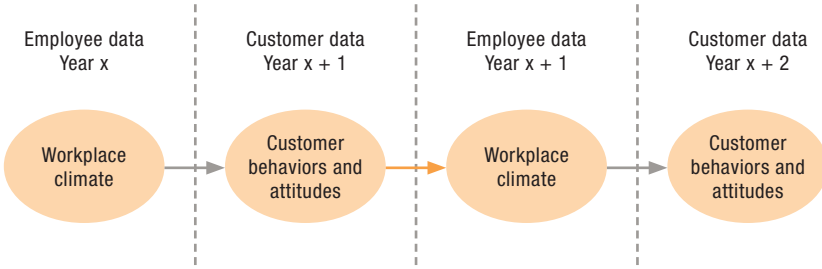

Figure 35. Research model to test reciprocal effect in the SPC.

The proposed research model in Figure 35 is based on the linkage model shown in Figure 26.

Fourthly, three illustrative propositions have been created to emphasize the potential of applying studies and theories of positive organizational scholarship to service profit chain and the discussion in services marketing literature in order to reveal new value co-creation possibilities.

The first proposition reflects the discussion in Section 6.5.1 (table 34) regarding the trust in self and others and its impact on the co-creation of service value. Both studies and theories of POS as well as services marketing literature recognize trust as an important element enhancing the quality of relationships. Further to this, theory testing in Part I proved that field service engineers' Personal Engagement and account managers' perceptions of Workplace Climate predicted customers' perceptions of Assurance i.e. trustworthiness provided by these employee groups. In POS literature, evidence exists that expressions of positive emotions increase the trust in self and others (Fredrickson, 2003; Dunn & Schweitzer, 2005). Services literature has defined trust as a key enabler in the building of customer relationships (Grönroos, 2004; Hennig-Thurau et al., 2006), customer loyalty (Caceres et al., 2007; Hansen et al., 1999) and brand image (Yieh et al., 2007). Berry (2011:189) claims, in a recent article in the Industrial Marketing Management journal, that trust is the foundation of dedication-based relationships. He continues by stating that "high-performance service organizations are high-trust organizations that thrive on the strength of the relationships they build".

Proposition 1: Trust in self and others may foster the co-creation of value in service businesses.

27 Employees' shared perceptions of the practices, procedures, and behaviors that are rewarded, supported, and expected by the organization with regard to customer service and customer service quality (Schneider et al., 1998)

The most recent article by Ramaswamy (2011:195) suggests that engaging people to generate valuable experiences together could be an alternative approach to view service value creation. Ramaswamy states that value is a function of human experiences and experiences originate from interactions: "co-creation is the process by which mutual value is expanded together, where value to participating individuals is a function of their experiences, both their engagement experiences on the platform, and productive and meaningful human experiences that result". In a service profit chain every actor has an opportunity to transfer ordinary events into positive events that carry positive meaning (Folkman, 1997) by their positively deviant behaviours (Fredrickson, 2003). This process may create positive emotions among others (Fredrickson, 2003) and ultimately such positive human experiences that may foster the creation of mutual value (Ramaswamy, 2011).

Proposition 2: The increased positively deviant behaviors of actors in the service profit chain may foster the creation of such positive human experiences in interactions that they may promote the co-creation of value in service businesses.

The third proposition reflects the discussion in Section 6.5.2 and in Figure 32, in particular. Based on the broaden-and-build theory, positive emotions broaden peoples' senses of self to include others, which according to Waugh and Fredrickson (2006:94), may create greater feelings of self-other overlap and "oneness". According to Gummesson (1998), at its best co-creation of value in services means creation of interactive productivity which is created when the service provider and the customer are interdependent and gain mutual benefit from their interactions. Recently, Ballantyne et al. (2011) emphasized the important role of collaboration and learning with customers as " a key strategy for knowledge up-skilling in a complex industrial world in which dialogical communication has the potential for revealing new value creating possibilities". Thus a third proposition is created:

Proposition 3: Increased feelings of oneness in supplier – customer interaction promote collaboration and relationship learning and thus foster the co-creation of value in service businesses.

These three propositions suggest that the organizational and contextual enablers for positively deviant behaviours of various actors in SPC: supervisors, employees, peers and customers ought to be recognized. Thus novel ways are needed to explore how positively deviant behaviours impact on the creation of positive emotions of the actors in the services profit chain.

7.5 Final Remarks

This dissertation has tested scientifically for the first time, in the context of a B-to-B service business, how employees' perceptions of their organization impact on customers' perceptions of service quality. The theory testing results in Part I showed that the linkage model was different based on the types of

interactions service employees have with the customers. These two employee groups are field service engineers, who most often work in the customer premises having physical and psychological closeness, and account managers who interact with the customers mainly through email and phone. Thus, the boundary conditions are the separating element in the linkage model used to examining the employee and customer perceptions of service quality in services. Theory testing revealed that field service engineers' Personal Engagement predicted customers' perceptions of Reliability and Assurance provided by employees. However, this was not the case in the testing of the same model using account manager data. Thus, a modified linkage model was formulated and tested using account manager data. Interestingly enough, it could be verified that account managers' perceptions of Workplace Climate predicts customers' quality perceptions. Therefore, a new linkage model was introduced to B-to-B service businesses. This model would be applicable in cases where physical and psychological closeness between the service provider and customer is not present. For companies in service businesses this calls for fostering, measuring and monitoring Workplace Climate as an essential factor having influence on the overall organizational performance. In addition, this finding encourages the selection of additional metrics for measuring Workplace Climate and positively deviant behaviors and positive emotions in particular, to be added to the portfolio of performance measurements. Practical suggestions to this end have been made in Section 7.2.

Taken together, these findings offer a major insight into the functioning of Workplace Climate. These findings offer perspectives which can be further developed by incorporating them with the rich theoretical literature on positive organization scholarship (POS) and the broaden-and-build theory of positive emotions by Fredrickson (1998, 2001). The quality of interactions between supervisors, employees, peers and customers were discussed in the light of the theoretical paradigm of POS in Part II, and an attempt has been made to propose how positively deviant behaviors, as recognized by POS, could create positively deviant service businesses.

This dissertation started by acknowledging that workplace well-being is a critical challenge of our times. More productivity and innovations are called out for, yet employee well-being and experiences of fulfillment at work and motivation may be at risk because of the underlying mechanisms and dehumanizing phenomena in society, such as cynicism, competition and cliques, as argued by Himanen (2010). This thesis suggests a vision in which enhanced individual well-being and positive emotions could cultivate positively deviant behaviors in organizations, thus challenging such negative underlying assumptions in organizations and society as a whole.

As was indicated in the introductory chapter, service orientation is an increasing global trend among companies which creates the necessity for organizations to discover novel means of cultivating and uncovering the human potential. This study has scrutinized the quality of interactions of four types of actors in service businesses (i.e. supervisors, employees, peers and customers) and has made a serious attempt to identify positively deviant behaviors which would improve performance in service businesses. Based on this study, it is suggested that a service business, specifically its four types of actors, can impact on the performance by taking an intentionally and deliberately chosen stance towards positively

deviant behaviors that furnish the upward spirals through individual emotional well-being and a climate for positivity.

Many of the links and correlations of the above phenomena have been tested and verified in Part I. Still, additional emphasis should be put on examining how positive emotions and the positively deviant behaviors of the four actors actualize and can be observed in a B-to-B service business context.

In the increasing service business markets it is vital that the perceived service quality is excellent and the performance keeps improving and customer loyalty is sustained.

These challenges indicate the need to introduce metrics that measure not only performance but also positively deviant behaviors and their various components, such as those emphasized in the model of positively deviant B-to-B service businesses in Figure 32.

The present study welcomes future research into articulating in more detail how positive emotions and positively deviant behaviors, as recognized by POS, can create a climate for positivity through positively deviant upward spirals of interactions. It seems clear however, that these positive upward spirals of positively deviant performances start to occur when a service company's business strategy recognizes the potential in positively deviant behaviors and takes them as tools for fostering flourishing workplaces. After all, a service business is a people business. This work has provided some research-based grounds for envisioning why the human tendency to favor positive over negative also makes good business sense.

Ultimately, this thesis suggests novel opportunities for development in both important disciplines, SPC and POS. Firstly, service profit chain and services research as a whole, can find numerous future research areas to study the impact of positive emotions on co-creation of value for both organizations and their employees. Secondly, this thesis has opened novel research areas for POS research in the B-to-B service context by providing examples of how supervisors, employees, peers and customers could foster the creation of positively deviant behaviors. Moreover, this thesis offers a novel conceptual approach for the future research of both services marketing and POS researchers, to study the impact of positive emotions on the creation of positively deviant service businesses.

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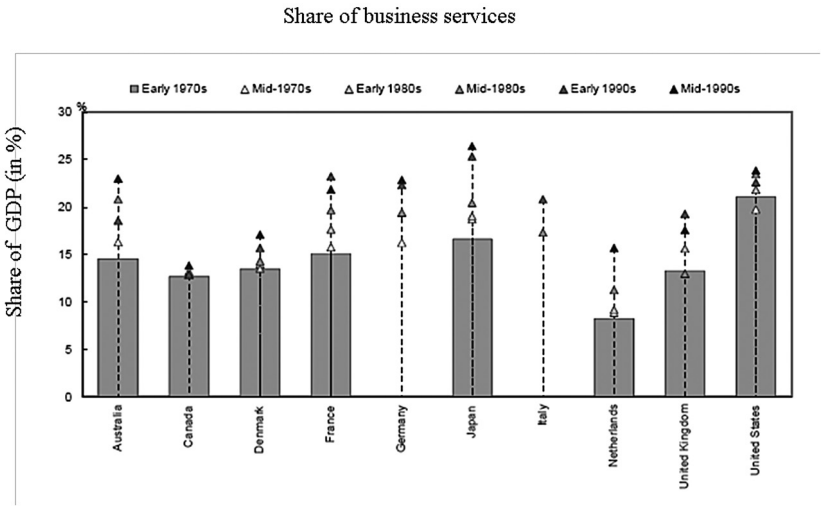
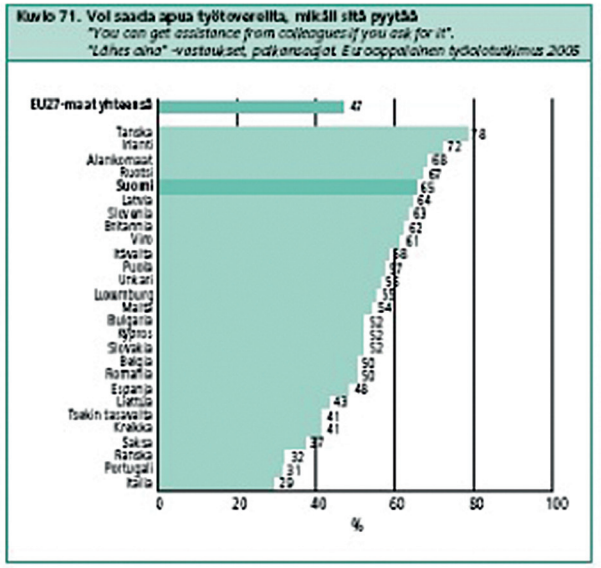
Appendices

Appendix 1. Services sector value added embodied in manufacturing goods (Wölfl, 2005:22) (Percentage of total value of manufacturing goods in final demand).



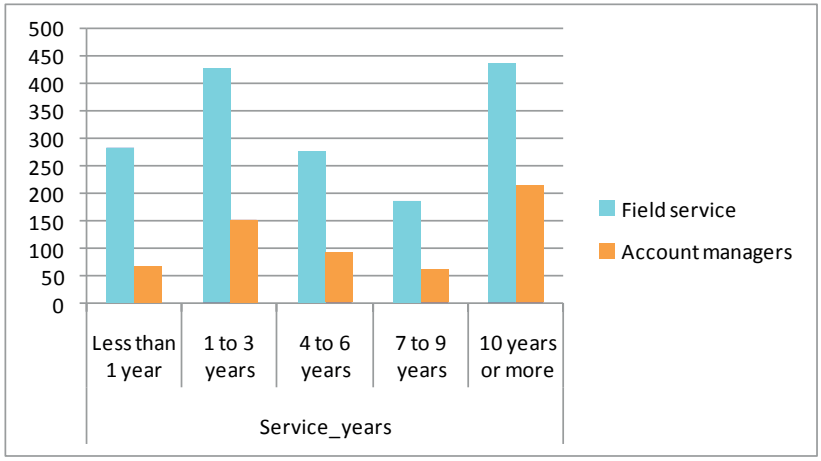
Appendix 2. Working Conditions Survey 2005 EU27. (Lehto & Sutela, 2008:92)

"You can get assistance from colleagues if you ask for it" (Almost always)



Appendix 3. Employee data descriptive

Chart 1. Service years by job type in employee data



Appendix 4. Description of the process to convert survey data to research data

The survey data needed pre-processing to transform it from employee and customer survey data into research data. The first step was to link the respective employee survey data with the customer survey data. For this purpose only, a visual basic program, here called Linker, was developed in collaboration with Hyry. The role of the Linker program was to link the respective individual employee responses with the company level customer responses and generate the sample data for this thesis. The reason for creating a specific visual basic program was due to the extensive amount of data and the fact that manual linking would have been risky and labor intensive.

Several definitions were made in order to create requirements for the Linker program. Firstly, the definition of the common denominators that pair these two surveys – employee and customer satisfaction data – together. The basic assumption was that customers are served by their reference country employees. Secondly, the Linker program had to be coded to create two sets of separate sample data based on the type of job the employees perform, one for account managers and one for field service engineers. The third requirement programmed into the Linker was that sample data should consist of only those companies where both the employee and customer data existed. The fourth dimension in the Linker programming was the collection period of the sample data. The customer survey consists of two elements; self evaluation (SE) and customer opinion (CO). Apart from their title (SE or CO) the questionnaires are identical. The SE was completed by Wärtsilä's account manager and the CO by the customers. Only customer opinions (CO) were included in the data selection process for this study. Therefore, the customer data responses were coded in the Linker program with 1 and blank to separate the self evaluation (SE) and customer opinion (CO).

A coding example is presented in Table 40.

Table 40. Example of the coding in the Linker program.

Data file	Column	Term	Column	Term	Data file	Column	Term	Column	Term	Column	Term
MyVoice 2007 data by individuals 070627.xls		Business unit		Virtual office	categorized_services_2007_to_20080618.xls		Between dates		Company		Both Self evaluation (SE) and Customer evaluation (CO)
Myvoice	A -	W3	D -	C0102	Crol	B -	1.1.2007 - 31.12.200	K -	WID	E -	1
Myvoice	A -	W3	D -	C0103	Crol	B -	1.1.2007 - 31.12.200	K -	WPH	E -	1
Myvoice	A -	W3	D -	C0104	Crol	B -	1.1.2007 - 31.12.200	K -	WSG	E -	1
Myvoice	A -	W3	D -	C0203	Crol	B -	1.1.2007 - 31.12.200	K -	WCN	E -	1
Myvoice	A -	W3	D -	C0205	Crol	B -	1.1.2007 - 31.12.200	K -	WKR	E -	1
Myvoice	A -	W3	D -	C0206	Crol	B -	1.1.2007 - 31.12.200	K -	WTW	E -	1
Myvoice	A -	W3	D -	C0301	Crol	B -	1.1.2007 - 31.12.200	K -	WJP	E -	1
Myvoice	A -	W3	D -	C0401	Crol	B -	1.1.2007 - 31.12.200	K -	WIN	E -	1

Table 40 shows how the Linker program was coded using the existing variables in the employee survey (Myvoice) and the customer survey (Crol). The correct employee survey responses are identified by using business unit code (W3) and virtual office code (C0101). The virtual office code individualizes both the company and the process where the individual employee is located. Virtual office is the key information and thus serves as the separator between employees from different processes, such as account management and field service engineers.

Customers are identified with a company code per customer and then each employee was connected to the relevant customer by connecting their virtual office codes to customers' company code. The virtual office code in employee data and the company code in customer data have an undoubted link.

To ensure the correctness of the visual basic programming, a comparison of the input and output data was executed. As an outcome of the Linker program two input files with corresponding output files were created. Two input files called Myvoice.src and CROL.src and respective output files called of Myvoice.trgt and CROL.trgt. Validation was carried out by comparing the two data sources of Myvoice.src and CROL.src to the respective output of Myvoice.trgt and CROL.trgt. The output consists of only those employee and customer responses where the linkage program had found an in-between linkage. However, this item by item comparison revealed gaps and some programming errors which were then corrected. An example of the comparison analysis after corrections is shown in Table 41.

Table 41. Comparison of the input and output of linker program.

Employee survey data_2007	nr of employee answers	reason/correction:	Customer survey data_2007	nr of customer answers, both SE and CO	reason/correction:
Myvoice.src	4580		CROL.src	3177	
Myvoice.trgt	4418		CROL.trgt	2687	
Difference	**162**		Difference	**490**	
Company codes missing	82	CROL not done	Company codes missing	438	Myvoice not done
C0210 were missing	26	coding error, corrected	WUS missing	51	coding error, corrected
W312 were missing	54	coding error, corrected	WNL missing	1	corrected, programmin error
	162			**490**	

The comparison analysis shown in Table 41 revealed both employee and customer survey data responses with missing company code, thus the program did not find matching information to link the items. This was the correct result. In some countries there were too few employees; the survey is not conducted if there are less than 5 employees. Similarly, in some countries there are no services customers and no CROL survey responses either.

Change of reversed scale in the employee data

In the employee survey, some of the measurement items had a reversed scale as compared to the rest of the measurement items. Before data validation and analysis could begin, the scale relating to these measurement items was reversed to align them with the rest of the measurement items in the employee survey.

Table 42. Employee survey measurement items with a reverse scale.

Question	Employee survey 2007
29	Are there steps/stages in you work when your work is too difficult?
33	I receive conflicting instructions and orders from different individuals
50	Failures and omissions are covered up
60	Our working community receives unjustified negative feedback about failure
3	How often is your workload distributed unevenly so that jobs pile up?
2	How often do you feel stressed out because of unfinished jobs?
17	I can use my knowledge and skills at work to their full extent
6	What is the atmosphere like in your working community: 6c Prejudiced and rooted in old habits 6d Quarrelsome and discordant 6e Strained and tense
14	I enjoy my life

The measurement items listed in Table 42 have a scale of 5-1. The responses to these measurement items were changed to a 1-5 scale for both years' employee survey data.

Appendix 5. Removed measurement items that had a low communality in employee data.

2007	Question	Initial	Extraction
Q21	I develop my skills and competence independently	,160	,110
Q16	I believe that, from the standpoint of my health, I will be able to work in my cu	,142	,120
Q14	I enjoy my life	,206	,167
Q60	Our working community receives unjustified negative feedback about failure	,198	,177
Q29	Are there steps/stages in you work when your work is too difficult?	,239	,206
Q53	I am not afraid to state my opinion openly in my working community	,300	,278
Q5	How confident are you about the continuity of your employment?	,329	,284

Appendix 6. Employee survey measurement items.

This appendix consists of the list of the original questionnaires of employee survey in 2007 also called MyVoice. The original Finnish questionnaire was translated into nine other languages.

1 How varied or monotonous is your work?
2 How often do you feel stressed out because of unfinished jobs?
3 How often is your workload distributed unevenly so that jobs pile up?
4 Is your work appreciated in your working community?
5 How confident are you about the continuity of your employment?
6a What is the atmosphere like in your working community: Encouraging and supportive of new ideas
6b What is the atmosphere like in your working community: Amiable and pleasant
6c What is the atmosphere like in your working community: Prejudiced and rooted in old habits
6d What is the atmosphere like in your working community: Strained and tense
6e What is the atmosphere like in your working community: Quarrelsome and discordant
7 Do you feel that you are a victim of mental bullying or abuse in your working community?
8 I am satisfied with my present job
9 I appreciate my own work
10 My work is meaningful
11 I find pleasure in doing my present job well
12 I am ready to work hard in order to advance Wärtsilä's success
13 I am ready to work hard in order to advance in my career
14 I enjoy my life
15 I feel like I'm being squeezed empty because of my work
16 I believe that, from the standpoint of my health, I will be able to work in my current job two years from now
17 I can use my knowledge and skills at work to their full extent
18 My competence meets the requirements of my job
19 My work offers me possibilities for personal growth and development
20 I am encouraged to develop my professional skills
21 I develop my skills and competence independently
22a In my working community we discuss the work tasks together
22b In my working community we discuss the work targets and the means to achieve them
22c In my working community participation in workplace development is encouraged
22d In my working community suggestions for improvements are implemented
22e In my working community feedback and ideas are obtained from clients
22f In my working community the more experienced co-workers show/teach their younger colleagues the working methods
23 My working community delivers services/products on time

24 My working community produces good quality services/products
25 My colleagues support and help me when needed
26 Teamwork is not evaded in my working community
27 Everyone takes responsibility for correcting errors and defects in my working community
28 Everyone takes responsibility for achieving our common goals in my working community
29 Are there steps/stages in you work when your work is too difficult?
30a How much can you affect the versatility and variety of your work?
30b How much can you affect your work content?
30c How much can you affect your workload?
30d How much can you affect the timing and sequence of jobs?
30e How much can you affect general work methods and procedures at your work?
31 My closest superior supports and helps me when needed
32 My closest superior participates adequately in developing and organizing my everyday work
33 I receive conflicting instructions and orders from different individuals
34 I receive conflicting instructions and orders from different levels in the organization
35 Changes are well planned and executed (communication, choice of personnel, participation in planning) in my working community
36 I can trust what I have agreed with my superior
37 My closest superior acts fairly and objectively
38 I am treated fairly and objectively in my working community
39 All employees are treated fairly and objectively in my working community
40 Everyone is respected and trusted in my working community
41 I am properly remunerated for a job well done
42 I get more than monetary recognition for work done well
43 My salary is fair compared to other employees with similar tasks
44 Recognition for teamwork achievements is given fairly in my working community
45 Initiative is fairly rewarded in my working community
46 Our company's existing remuneration systems encourage better results
47a Communication is adequate inside my department
47b Communication is adequate between Divisions/Businesses
47c Communication is adequate between different countries
47d Communication is adequate between business management and personnel
48 How satisfied are you with the following channels of Wärtsilä's internal communications?
48a a) Workroom
48b b) Corporate intranet
48c c) Intranet of own global Business Division
48d d) My own unit's local intranet
48e e) Group's personnel magazine
48f f) Bulletin board

49a Communication is adequately open inside my department
49b Communication is adequately open between Divisions/Businesses
49c Communication is adequately open between different countries
49d Communication is adequately open between business management and personnel
50a Failures and omissions are covered up inside my department
50b Failures and omissions are covered up between Divisions/Businesses
50c Failures and omissions are covered up between different countries
50d Failures and omissions are covered up between business management and personnel
51 The openness of communication about challenges relating to local business operations is adequate
52 The openness of communication about challenges relating to Wärtsilä's business operations is adequate
53 I am not afraid to state my opinion openly in my working community
54 I get feedback from my closest superior on how I have succeeded in my work
55 I get feedback from my colleagues on how I have succeeded in my work
56 We discuss difficult employment-related issues in my working community
57 Our working community receives feedback about success
58 Our working community receives constructive feedback about failures
59 In our working community we learn from mistakes
60 Our working community receives unjustified negative feedback about failure
61 How satisfied are you with the communication with your immediate superior about your daily work?
62 How satisfied are you with the communication with local Company management about your daily work?
63 Have you had Development Discussions with your superior during the last 12 months?
64 Are the scope and quality of these discussions adequate?
65 Do you think Development Discussions have had a practical effect?
66 I know Wärtsilä's values
67 I understand what Wärtsilä's values mean
68 I accept Wärtsilä's values
69 I am committed to acting in accordance with Wärtsilä's values in my work
70 We have discussed Wärtsilä's values in our working community
71 Wärtsilä's values guide the practical work in our working community
72 I am proud that I work in Wärtsilä
3.2 Knowing and understanding the strategy
73 Wärtsilä has a clear strategy
74 I am well aware of Wärtsilä's strategy and objectives
75 Wärtsilä is executing its defined strategy as it should
76 The Division/Business has a clear strategy
77 I am well aware of the Division's/Business's strategy and objectives
78 The Division/Business is executing Wärtsilä's defined strategy as it should

79 Wärtsilä's strategy and objectives are sensible and achievable
80 Wärtsilä will succeed against future competition
81 Our local Company's strategy and objectives are sensible and achievable
82 Our local Company monitors the correct indicators for measuring success
83 I am well aware of our local Company's tasks and objectives
84 I am well aware of my working community's/department's tasks and objectives
85 I know the key indicators for my working community/department
86 I know very well the tasks of my job and the objectives set for me
87 The tasks of my job and the objectives set for me are sensible and achievable

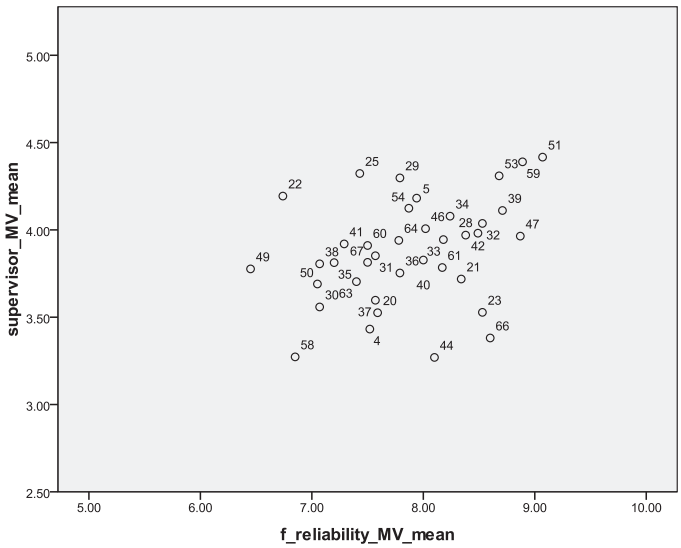
Appendix 7. Customer survey measurement items.

F04 The quality of maintenance work is good.
F03 The behavior and attitude of engineers is good.
F01 The service engineers are competent.
F05 Wärtsilä gives you satisfactory status reports of ongoing maintenance work.
F06 The maintenance reports are correct and useful.
F02 Service engineers are available when needed.
T02 The Service Bulletins are understandable and useful
S09 The Account Manager contacts you often enough.
S10 The Account Manager informs you enough about different products and services.
S11 The Account Manager listens to your opinions and pays attention to your needs.
S12 The Account Manager ensures that your problems and inquiries are taken care of.
S06 The local Wärtsilä representatives are available when needed.
S07 The scope of offers is clear and suits your needs.
S08 The response time for offers/inquiries is prompt.
P03 Wärtsilä is able to meet agreed delivery times
P04 Wärtsilä's technical problem solving is efficient
P05 Wärtsilä is able to meet the agreed delivery times for spare parts.
S14 Spare parts are easy to order.
S15 Wärtsilä keeps you updated with the status of your orders.
S04 Wärtsilä is reasonable when handling complaints and claims.
S02 Wärtsilä takes responsibility for its promises and actions.
S03 Wärtsilä is open and sincere in its communication.
T05 The response to technical inquiries is thorough and prompt.
T04 Technical problem solving is efficient.
S05 Wärtsilä actively suggests ways to improve the performance of the installation.
S01 Wärtsilä understands your business.
P01 Wärtsilä's project management is competent
S13 The operating costs of the installation are in accordance with your expectations.

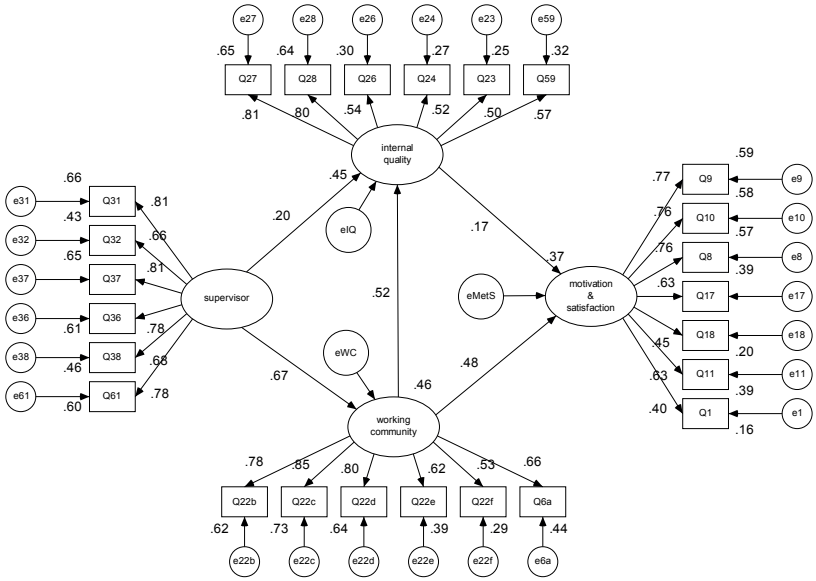
P02 The quality and reliability of Wärtsilä's electrical components is good.
T01 The availability of the installation is high.
T03 The technical Service Bulletins are distributed often enough.

Appendix 8. Scatter plot between employee data (account manager) and customer data

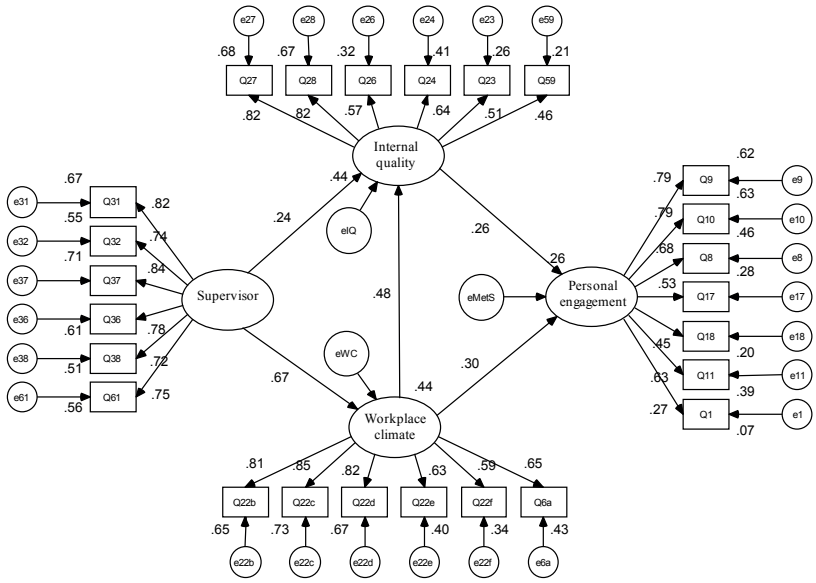
Symmetric scatter plot where higher supervisor scores (employee responses) tend to be related with higher reliability scores (customer responses)



Appendix 9. Structural equation modeling results within account manager data (individual level, using standardized estimates).



Appendix 10. Structural equation modeling results within field service employee data (individual level using standardized estimates).



Appendix 11. GLS analysis

Comparison of the research results presented in Figure 24 and 25 with the results when the first component and the size of the unit level employee and customer replies are controlled (Standardised).

Field Service		Nothing controlled				C1 and N_C-RES, N_EMPS controlled			
Empl. Data	Cust. Data	Estimate	S.E.	Est./S.E	P-Value	Estimate	S.E.	Est./S.E	P-Value
personal engag.	reliability	0.35	0.14	2.42	0.01	0.32	0.18	1.77	0.08
personal engag.	resp & empathy	0.23	0.16	1.47	0.14	0.25	0.18	1.36	0.17
personal engag.	assurance	0.30	0.15	2.01	0.04	0.35	0.18	1.95	0.05
personal engag.	C1					0.30	0.18	1.66	0.01
Sales									
personal engag.	reliability	0.15	0.16	0.91	0.36	0.13	0.17	0.73	0.47
personal engag.	resp & empathy	0.19	0.16	1.22	0.22	0.15	0.17	0.91	0.36
personal engag.	assurance	0.19	0.16	1.19	0.23	0.13	0.17	0.76	0.45
personal engag.	C1					0.09	0.17	0.55	0.58

Appendix 12. Correlation analyses between employee and customer perceptions, using two successive customer data periods.

An additional correlation analysis was carried out to test how the data behaves when employee data is compared to two additional successive customer data sample periods.The comparison of the account manager employee data correlations to two different customer samples is presented in Table 43. Customer data II was collected between 7.4.2007-8.9.2008 and customer data III between 1.10.2008-5.11.2009.

Hypothesis: Account managers' perceptions of their organization have a positive relationship with Responsiveness and Empathy and Assurance in two sequential customer samples.

One interesting observation is that significant correlations exist only between employee data and customer data II, not between employee data and customer data III.

Table 43. Correlations between account manager data and customer data II and III.

Account managers N=41	Reliability (II) N=38	Reliability (III) N=34	Responsiveness and empathy (II) N=38	Responsiveness and empathy (III) N=34	Assurance (II) N=38	Assurance (III) N=34
Supervisor	0.22*	0.13	0.21*	0.03	0.19*	0.02
Internal quality	0.20*	-0.02	0.22*	-0.06	0.18	-0.08
Personal engagement	0.16	0.09	0.17	0.01	0.17	0.06
Workplace climate	0.31***	0.2	0.26**	0.11	0.31***	0.18

Two-tailed test *p<.1, **p <.05, *** p<.01

Account managers' perceptions of supervisor's behavior have a positive and significant correlation with all three customer perceptions in customer data II. However, no such correlations exist between employee data and customer data III. Furthermore, account managers' perceptions of the Internal Quality of their organization have a significant correlation with customers' perceptions of Reliability, Responsiveness and Empathy in customer data II, but not in the customer data III. Positive and significant correlations exist between account managers' perceptions of Workplace climate and all three customer perceptions in customer data II, but not customer data III. Positive correlations in the first sample period (customer data II) exist between account managers' perceptions of Workplace Climate and customers' perceptions of Reliability (r= .31), Responsiveness and Empathy (r= .26) and Assurance (r= .31) provided by account managers. Surprisingly, no significant correlations exist between account managers' Personal Engagement and any of the customer quality factors presented in Table 43.

These results indicate that account managers' behavior does not have a lasting impact on customers' perceptions of quality. This is a surprising and interesting outcome. However, account managers have a bigger role at the beginning of the customer relationship which may have an impact on the results. The findings shown in Table 43, could also be interpreted that when the observation period in the correlation analysis gets longer, the impact of account managers on customer satisfaction is lower. In this case, the results surprisingly suggest that account managers do not have a longitudinal impact on customer perceptions.

An additional correlation analysis was carried out to test how the data behaves when field service employee data is compared with two additional successive customer data samples: customer data II and III.

Hypothesis: Field service engineers' perceptions of their organization have a relationship with Reliability and Assurance in two sequential customer samples.

Table 44 presents the similar correlation matrix for the field service employee group.

Table 44. Correlations between field service employees' data and customer data II and III.

Field service engineers N=41	Reliability (II) N=38	Reliability (III) N=34	Responsiveness and empathy (II) N=38	Responsiveness and empathy (III) N=34	Assurance (II) N=38	Assurance (III) N=34
Supervisor	0.25**	0.34**	0.02	0.27**	0.20*	0.34**
Internal quality	0.25**	0.32**	0.14	0.25**	0.25**	0.33**
Personal engagement	0.18	0.17	0.11	0.08	0.21*	0.16
Workplace climate	0.31***	0.33***	0.16	0.24*	0.33***	0.35***

Two-tailed test *p<.1, **p <.05, *** p<.01

Table 44 shows that all field service engineers' perceptions of their organization, except for Personal Engagement, have a positive correlation with Reliability in customer data II. Surprisingly, field service engineers' perceptions of their Personal Engagement have a positive and significant correlation only with customers' perceptions of Assurance provided by employees. However, the reason why field service engineers' perceptions of their Personal Engagement do not correlate with customers' perceptions of the Reliability provided by employees remains an unanswered question.

The most striking observation in Table 44 is that field service engineers' perceptions of their Workplace Climate has a positive and significant (p <.01) correlation with customers' perceptions of Reliability and Assurance provided by employees both in customer data II and III.

Interestingly, in Table 44 there is a clear, increasing trend of correlation values between customer data period II to III. This could imply that the footprint created by field service engineers is long-lasting and strengthening over time within customers, whereas account managers' impact on customers' perceptions vanishes totally over the same time period, as was seen in Table 43. Further to this, these results could be interpreted by assuming that customers' perceptions of field service engineers' performance is more favorable the longer the engines are working properly.

As can be seen in Tables 43 and 44, both account managers' and field service engineers' perceptions of their Workplace Climate appear to have a focal role in the creation of customers' perceptions of Assurance, Responsiveness and Empathy, and Reliability as provided by the employees.

In summary, the correlation analysis presented in Table 44 showed that the longitudinal and increasing impact of field service engineers' attitudes and behaviors on customers' quality perceptions are significant. The significance of the correlations between three factors in the employee data, Supervisor, Internal Quality and Workplace Climate and customer quality factors increased in two

successive data sets. This result emphasizes the important role of field service engineers in building and sustaining a long-term customer relationship in B-to-B service contexts. Similar results could not be found in the account manager data, presented in Table 43.

Appendix 13. Analysis results of the indirect links in the linkage model presented in Figure 26 (account manager data)

Additional analysis was conducted to examine whether there would be any significant indirect linkages between employees' perceptions of their organization and customers' perceptions of service quality compared to the research results presented in Figure 26 for the account manager data and Figure 25 for the field service engineer data.The additional analysis for account manager data is presented in Figure 36.

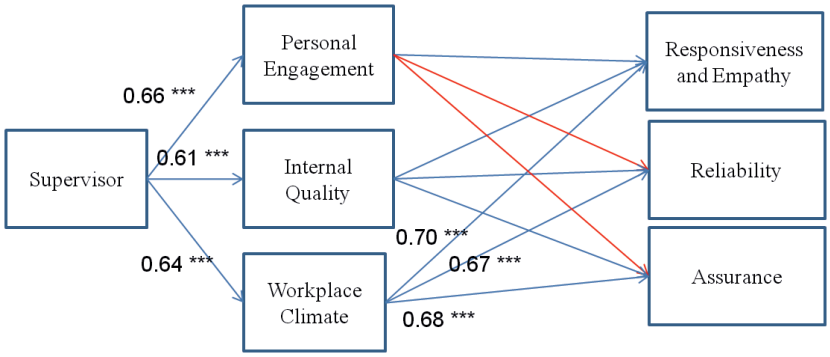


Figure 36. Indirect links in the linkage model using account manager data (account manager data, aggregated business unit level data, N=38).

The results presented in Figure 27 in Chapter 5 showed significant linkages between account managers' perception of Workplace Climate and all three customer quality perceptions. Figure 36 supports this result, by providing evidence that no other indirect link other than that between account managers' perception of Workplace Climate and customer data exists. Similar analysis using field service data is presented in Figure 37.

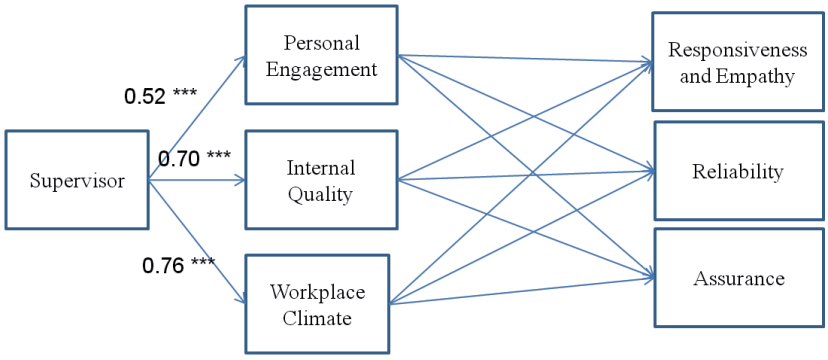


Figure 37. Indirect links in the linkage model using field service data (field service data, aggregated business unit level data, N=38).

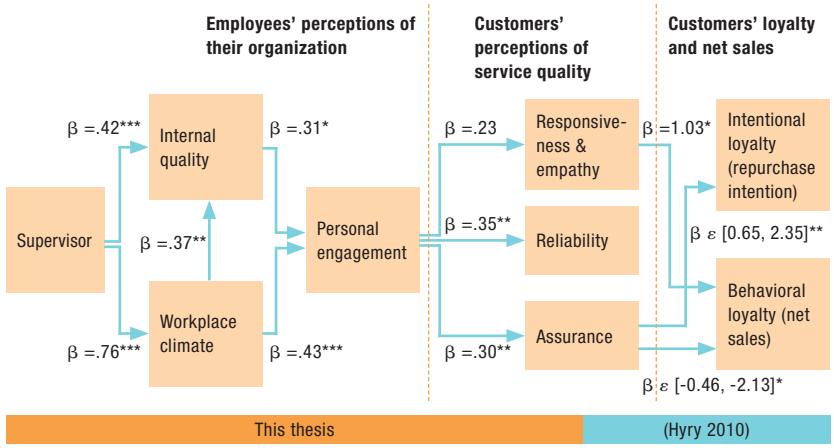
In Section 5.4.3, in Figure 25, a model was presented to show that field service engineers' Personal Engagement predicted customers' perceptions of Reliability and Assurance provided by field service engineers. The additional analysis for examining whether any indirect linkages existed is presented in Figure 37. As can be seen, no linkages exist between the factors in the field service employee data and customer perceptions of service quality. Thus it can be noted that linkages presented in Figure 25 in Section 5.4.3 are accurate and no indirect link exists.

Appendix 14. Combining the research findings of the testing of two linkage models to cover the entire service profit chain.

Two theses were integrated to cover the entire linkage model of the service profit chain. The theory testing results of this thesis shown earlier in Figure 25 for field service employees has been integrated with the results reported by Hyry (2010). The reason for excluding the account manager data in this case is due to the findings shown in Figure 24 in Section 5.5. The account manager data did not support the linkages in the model, whereas the field service engineer data did.

Hyry's (2010) study incorporates three data sources from Wärtsilä: customer quality perceptions, net sales and loyalty survey data. Hyry's (2010) study is based on a random sample of 222 customers from the same data used in this study and the financial data consists of their net sales between 1.9.2008–31.12.2009. To estimate the customer quality and loyalty link, Hyry used structural equation modeling (2010:102) and to estimate the link between customer quality and sales he used linear latent growth curve modeling (2010:88). The remaining links in the linkage model are taken from the study by Hyry (2010). He found that customers' perceptions of the Assurance provided by employees, predicted customer loyalty (repurchase intention) and net sales. Similarly, Hyry (2010:96) found that customers' perceptions of employees' capability to express Responsiveness and Empathy predicted net sales of the customer.

The consolidation of the results of two theses is presented in Figure 38.



*** ρ < .01
** ρ < .05
* ρ < .1

Figure 38. Results of the testing of the entire linkage model (field service, standard estimates)

It is important to note that Figure 38 is an integration of two separate researches having different sizes of customer research data samples and also using different estimation techniques. The results presented in this study are based on customer data having 1987 individual responses, whereas Hyry's analysis is based on 222 individual customer responses. In addition, Hyry has used two different types of estimation techniques, structural equation modeling to estimate the link between customer quality and sales and linear latent growth curve modeling.

This is the first time that the entire linkage model has been tested using empirical data in a B-to-B context. Firstly, it can be noticed, that even though customers' perceived Responsiveness and Empathy are positively and directly related to future revenues, Personal Engagement as reported by field service engineers does predict customers Responsiveness and Empathy. Similarly, the data does not support the premise that customers' perceptions of Reliability provided by field service engineers would predict customer loyalty and suppliers' revenues. However, the results presented in Figure 38 show that customers' perceptions of field service employees' trustworthiness (Assurance factor) is a strong predictor of customer loyalty. In contrast to this, the Assurance factor has a negative and significant link to the customer net sales. This may imply that those customers who encounter only a few problems with the products provided by Wärtsilä perceive the supplier as trustworthy and consequently want to continue purchasing. Furthermore, less maintenance work is required, which impacts on the short term net sales. However, a loyal customer spreads positivity by word of mouth and stays with the supplier thus increasing the overall and long-term revenues. Though, the observation period used in the thesis (18 months) might not be long enough to fully realize the impact of customer loyalty on the net sales, and thus a reason for a negative relationship between customers' perceptions of assurance and their behavioral loyalty, i.e. suppliers' net sales.

Figure 39, in turn, presents the integration of the modified linkage model with the customer loyalty and revenue data using the account manager data. The result shown in Figure 39 confirms that Workplace Climate is the antecedent of customer quality perceptions which predict customer loyalty and net sales.

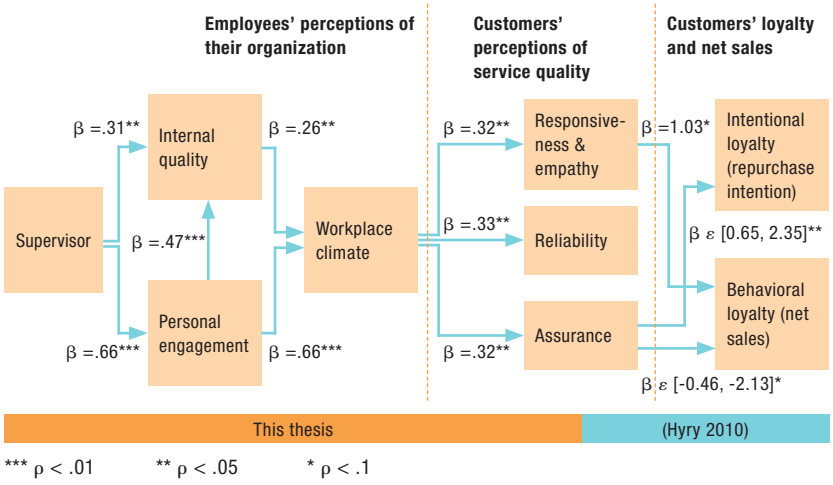


Figure 39. Results of the testing of the modified linkage model (account managers, standard estimates)

Surprisingly, Figure 39 shows how account managers' perceptions of Workplace Climate predict all customer quality perceptions. Further to this, Figure 39 shows that account managers' perceptions of Internal Quality and Personal Engagement impact on their perceptions of Workplace Climate. This can be interpreted that in a B-to-B context customers create an overall opinion of the supplier and its personnel, which is not based on an individual employee's behavior or attitude, as is the case in B-to-C.

The Responsiveness and Empathy factor reflects the activeness of the account manager and how he/she has maintained the relationship with customers and how he/she has kept customers informed about new products and services. Therefore, customers' positive perceptions of account management tend to relate to the activeness of existing customer relationships such as sales promotions that derive higher levels of future revenues from customers.

The relationship between customers' perceived Assurance of the supplier and future revenue was negative. Assurance measures the trustworthiness of the supplier in the eyes of the customer. The result may be interpreted that customers, who have bought a reliable product, require less maintenance work, which in turn means fewer service sales, such as spare parts sales and engineering work. However, the link between Assurance and loyalty, i.e. customers' repurchase intentions was positive and significant (β =1.031). This result is of great importance, especially when considering current customers as potential future engine and project clients, not merely as service clients. Additionally, loyal customers spread positivity by word of mouth while talking with other potential new customers of Wärtsilä.

To summarize, the research results of two combined theses provide comprehensive evidence that employees' perceptions of their organization and its management, predict customer quality perceptions, which in turn predict customer loyalty and company revenues.

Appendix 15. Some examples of supervisor's positively deviant behaviors that may foster the creation of positively deviant service businesses.

Table below presents some examples of how supervisors' positively deviant behaviors, may foster an individual employee's positive assessment of a specific measurement item in the research data in Part I. Each measurement item is viewed through the lenses of three leadership strategies: positive leadership strategies (Cameron, 2008), authentic leadership strategies (George et al., 2003; Shirey, 2006), servant leadership strategies (Liden et al., 2008; Spears et al., 2004), the broaden-and-build theory of positive emotions (Fredrickson 1998, 2001) and other POS theories and studies.

	Item number	Measurement item in the research data defining Supervisor behavior	Some examples of a supervisor's positively deviant behaviors that may be argued to foster employees' positive assessment of the given item.
Supervisor	Q31	My closest superior supports and helps me when needed	• Supervisor expresses positively deviant behaviors such as *appreciation, love, gratitude, helping others, truthfulness* and *unselfishness* (Fredrickson, 2003). • Supervisor has a *supportive communication* style (Babin & Boles, 1996; Cameron, Dutton, & Quinn, 2003; Liden, Wayne, Zhao, & Henderson, 2008). • Supervisor demonstrates developed capabilities when *listening* (Spears & Lawrence, 2004). • Supervisor *fosters compassion* (Cameron, 2008; George & Bennis, 2003).
	Q32	My closest superior participates adequately in developing and organizing my everyday work	• Supervisor expresses positively deviant behaviors (Fredrickson, 2003). • Supervisor *highlights the extended impact* of employee's work and *reinforces their strengths* (Cameron, 2008). • Supervisor *helps subordinates to grow* and *succeed* (Liden et al. 2008, Spears & Lawrence, 2004)
	Q36	I can trust what I have agreed with my superior	• Supervisor expresses positively deviant behaviors (Fredrickson, 2003). • Supervisor's positive emotions build trust in self and others (Dunn & Schweitzer, 2005). • Supervisor is *trustworthy* (Shirey, 2006). • Supervisor behaves through *values* (George & Bennis, 2003)
	Q37	My closest superior acts fairly and objectively	• Supervisor expresses positively deviant behaviors (Fredrickson, 2003). • Supervisor is *trustworthy* (Shirey, 2006). • Supervisor *fosters compassion* (Cameron, 2008 and George & Bennis, 2003) and he/she expresses *empathy* (Spears, 2004). • Supervisor is *consistent* in his acts (George & Bennis 2003).
	Q38	I am treated fairly and objectively in my working community	• Supervisor expresses positively deviant behaviors (Fredrickson, 2003). • Supervisor is *trustworthy* (Shirey, 2006). • Supervisor *fosters compassion* (Cameron, 2008 and George & Bennis, 2003) and he/she expresses *empathy* (Spears, 2004). • Supervisor is *consistent* in his acts (George & Bennis 2003).

Appendix 16. Some examples of how employee's broaden-and-build process and engagement may foster the creation of positively deviant service businesses.

Table below shows some examples how Personal Engagement factor in the research data can be impacted through individual employee's personal attitudes and behaviors as well as by positively deviant behaviors of supervisors and peers. Measurement items defining Personal Engagement factor from Part I are collected in the below Table and viewed using the POS lenses and work engagement literature.

	Item number	Measurement item description in the research data	Some examples of an individual employee's positively deviant behaviors as recognized by the POS theories and studies that may be argued to foster employees' positive assessment of the given item.
Personal Engagement	Q9	I appreciate my own work	• When an individual employee experiences *positive emotions* such as pride, joy, gratitude, contentment, love, hope, inspiration and interest (Fredrickson 1998, 2001, 2003) • An individual is *dedicated* to his/her own work (Schaufeli et al., 2002).
	Q10	My work is meaningful	• An individual employee has *organization-based self-esteem* (Hakanen, Perhoniemi, & Toppinen-Tanner, 2008; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007).
	Q8	I am satisfied with my present job	• When an individual employee experiences *positive emotions* (Fredrickson 1998, 2001, 2003)
	Q17	I can use my knowledge and skills at work to their full extent	• An individual employee *has self-efficacy* (Hakanen et al., 2008; Xanthopoulou et al., 2007).
	Q18	My competence meets the requirements of my job	• An individual employee is *optimistic* and has *organization-based self-esteem* (Bakker, Hakanen, Demerouti, & Xanthopoulou., 2007; Hakanen et al., 2008; Xanthopoulou et al., 2007).
	Q11	I find pleasure in doing my present job well	• When an individual employee experiences *positive emotions* (Fredrickson 1998, 2001, 2003) • An individual employee experiences *vigor* while working (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002).
	Q1	How varied or monotonous is your work?	

Appendix 17. Some examples of supervisors' and peers' positively deviant behaviors that may impact on an individual employee's assessment of measurement items Personal Engagement factor in the research data.

Table below shows how supervisors' and peers' can elevate an individual employees assessment on his/he Personal Engagement with the help of POS studies and studies on work engagement. Respect within the working community is one of the key attributes which create job resources impacting on work engagement (Demerouti et al., 2001; Schaufeli et al., 2007).

	Item number	Measurement item description	Some examples of a supervisor's and peers' positively deviant behaviors, suggested by the POS theories and studies that may be argued to foster employees' positive assessment of the given item.
Personal Engagement	Q9	I appreciate my own work	• Supervisor and peers *respect me (Demerouti, Nachreiner, Bakker, & Schaufeli, 2001; Schaufeli, Salanova, & Castellan, 2007)*
	Q10	My work is meaningful	• Supervisors' and peers' positively deviant behaviors create an *experience of significance* among employees which in turn cultivates positive emotions among employees and the creation of positive meaning at work (Fredrickson, 2003). • Supervisors' and peers' positively deviant behaviors *connect to an individual's personal* values and *highlight the extended impact of an individual's work* (Cameron, 2008).
	Q8	I am satisfied with my present job	• Supervisors and peers provide *development opportunities* (Demerouti et al., 2001)
	Q17	I can use my knowledge and skills at work to their full extent	• Supervisors and peers *foster* an individual's *strengths* (Cameron, 2008) and *help him/her to grow and succeed* (Liden, 2008)
	Q18	My competence meets the requirements of my job	• Supervisors' and peers' positively deviant behaviors create an *experience of competencies* among employees which in turn cultivates positive emotions among them and the creation of positive meaning at work (Fredrickson, 2003)
	Q11	I find pleasure in doing my present job well	• Supervisors' and peers' positively deviant behaviors create an *experience of achievements* among employees which in turn cultivates positive emotions among them and the creation of positive meaning at work (Fredrickson, 2003)
	Q1	How varied or monotonous is your work?	• Supervisors foster employees' *autonomy* in their work (Bakker & Schaufelf, 2008; Salanova, Bakker, & Llorens, 2006; Schaufeli et al., 2007)

Appendix 18. Some examples of how supervisors' and peers' positive emotions and positively deviant behaviors may impact on an individual employee's assessment of measurement items in Internal Quality factor in the research data.

Table below shows how supervisors' and peers' positively deviant behaviors could elevate an individual employees' assessment of Internal Quality Factor. Organizations become energised when other employees are engaged in their interactions (Cross et al. 2003) and apply positively deviant behaviours. Thus, it is proposed in Table below that when an employee feels energised he/she is likely to elevate his/her assessment of measurement items Q26, Q27, and Q28b. In addition, according to & Heaphy, (2003) the qualities of connections determine how organizations function and how employees feel and are connected with each other. High quality connections possess three common subjective experiences: feelings of vitality and aliveness, positive regard and mutuality (Dutton & Heaphy, 2003). When peers build on these three attributes, high quality connections will occur and employees' assessment of measurement item Q22f ma be elevated.

	Item number	**Measurement item description in the research data**	**Some examples of how supervisors' and peers' positively deviant behaviors, suggested by the POS theories and studies may be argued to foster employees' positive assessment of the given item**
Internal Quality	Q27	Everyone takes responsibility for correcting errors and defects in my working community	• Peers' positively deviant behaviors energize others when compelling vision is created in interactions and everyone is fully engaged in those interactions (Cross & Baker, 2003)
	Q28	Everyone takes responsibility for achieving our common goals in my working community	• Peers' positively deviant behaviors energize others when *compelling vision is created* in interactions and everyone is fully engaged in those interactions (Cross & Baker, 2003)
	Q26	Teamwork is not evaded in my working community	• Peers' positively deviant behaviors energize others through interactions in which others can *contribute meaningfully* (Cross & Baker, 2003) • Peers' positively deviant behaviors enable the creation of *high-quality connections* (Dutton et al. ,2003)
	Q59	In our working community we learn from mistakes	• Peers' *foster compassion* and forgiveness (Cameron 2008)

The same theories support the elevation of individual employee's assessment of Workplace Climate factor as explicated in the below Table in Appendix 19.

Appendix 19. Some examples of how supervisors 'and peers' positively deviant behaviors may impact on an individual employee's assessment of measurement items in Workplace Climate factor in the research data.

	Item number	Measurement item description	Some examples of a supervisor's and peers' positively deviant behaviors, suggested by the POS theories and studies that may be argued to foster employees' positive assessment of the given item.
Workplace climate	Q22b	In my working community we discuss the work targets and the means to achieve them	• Supervisors' and peers' positively deviant behaviors create an *experience of involvement* among employees which in turn cultivates positive emotions among employees (Fredrickson, 2003). • Peers positively deviant behaviors energize others when *compelling vision is created in interactions* (Cross & Baker, 2003)
	Q22c	In my working community participation in workplace development is encouraged	• Supervisors' and peers' positively deviant behaviors create an *experience of involvement* among employees which in turn cultivates positive emotions among employees (Fredrickson, 2003). • Peers positively deviant behaviors energize others through their *full engagement in interactions* in which everyone can *contribute meaningfully* (Cross & Baker, 2003).
	Q22d	In my working community suggestions for improvements are implemented	• Peers positively deviant behaviors energize others through their *full engagement in interactions* in which everyone can *contribute meaningfully* (Cross & Baker, 2003).
	Q22f	In my working community, more experienced co-workers teach their younger colleagues the working methods	• Supervisors' and peers' positively deviant behaviors create an *experience of social connections* among employees which in turn cultivates positive emotions among employees (Fredrickson, 2003). • Peers positively deviant behaviors enable the creation of *high-quality connections* and *fostering of personal growth* among the team (Dutton et al. ,2003)
	Q6a	What is the atmosphere like in your working community? Encouraging and supportive of new ideas	• Supervisors' and peers' positively deviant behaviors create an *experience of social connections* among employees which in turn cultivates positive emotions among employees (Fredrickson, 2003).

This thesis emphasizes the importance of the role of the human element in service businesses. Collaboration, co-creation and learning together embody the potential to reveal new value creating possibilities for the industrial world. This thesis examines how employees' perceptions of their organization impact on customers' perceptions of service quality in business-to-business services. The study shows the relevance of the physical and psychological closeness of the employees and customers as a key parameter for the structure of the linkage model. This thesis proposes that service value is emerging from human experiences in interactions by suggesting that the future competiveness of a service company is an outcome of the positively deviant behaviors of four types of actors in the service profit chain: supervisors, employees, peers and customers. A novel model, the model of positively deviant service businesses is introduced to linkage research, along with a new concept of climate for positivity.

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