Faculty of Economic Sciences, Communication and IT
Business Administration

Maria Åkesson

Role constellations in value co-creation

a study of resource integration in an e-government context

DISSERTATION
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To my Parents

Abstract

The contribution of the present thesis is describing and explaining how value is co-created by addressing customer-employee role constellations during service encounters. There is a specific focus on customers' and employees' resource integration when co-creating value.

The thesis consists of five separate papers, one of which is a literature review and four are empirical papers. The empirical papers are based on data from the public employment service and the customs service in Sweden.

The thesis offers two main contributions; the first of which is to service research by expanding knowledge of resource integration and value co-creation using e-government as the empirical context for outlining customers' and employees' value co-creation. The second contribution concerns which roles customers and employees enact during resource integration when value is being co-created. It was found that the roles of the employees were; interactor; customer oriented party, co-creator, and empowered party, while a customer can have the role of information integrator, accessibility needer, dialogue keeper, and/or knowledge transferee. Based on these two contributions, the thesis outlines principles regarding role constellations in value co-creation. The role constellations suggest that customers and employees enact roles that impact how their resources are integrated.

Finally, the thesis contributes towards building a theory of value co-creation by proposing that the ten foundational premises of S-D logic, together with the four theoretical propositions and the role constellations presented in this thesis, should be seen as an approach to building a theory of value co-creation. Together, these three building blocks offer the following explanation as to what occurs when a customer and an employee co-create value: (1) the ten foundational premises focus on resource integration and value co-creation. (2) The four theoretical propositions offer the explanation that resource integration occurs in the context of enacted roles since a role decides how to use the knowledge and skills. (3) The role constellations give concrete examples of how customers and employees integrate their resources to co-create value. Thus, the role constellations framework helps us understand the actual interactions linked to resource integration and value co-creation.

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As a PhD student you attend lots of seminars. Since I am part of the Swedish Research School of Management and Information Technology (MIT) I have been given the opportunity to attend seminars all over the country arranged by MIT. I would therefore like to thank MIT for giving me the opportunity to take part of the network of researchers making up the research school. Thanks for all the giving seminars! Here I would like to specially mention my fellow MIT-colleagues; Nina, Linda, Jörg, and Claes. You have all read my manuscript at various times at various locations, thank you for that! Moreover, I am grateful for the financial support provided by the MIT.

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Karlstad, November 2011,

Maria Åkesson

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Paper 2

Åkesson, M., & Edvardsson, B. (2008). Effect of e-government on service design as perceived by employees. *Managing Service Quality*. 18(5), 457-478.

Paper 3

Åkesson, M. & Skålén, P. (2011). Towards a service-dominant professional identity: an organisational socialisation perspective. *Journal of Service Management*. 22(1), pp. 23-38.

Paper 4

Åkesson, M. Customers' co-creational roles: a study of resource integration in e-service.

In review process: *European Business Review*

Preliminary version presented at the QUIS 12 conference (the 12th *International Research Symposium on Service Excellence in Management*), Cornell University and the School of Hotel Administration, Ithaca, USA

Paper 5

Åkesson, M. Value co-creation in e-government.

In review process, *International Journal of Public Sector Management*

1 INTRODUCTION

According to the service marketing literature, the interaction between a customer (the user of a service) and an employee is key to the realization of customer value through service. In fact, a customer's perception of the organization can be a direct result of his/her perception of the employee (Czepiel et al., 1985; Solomon et al., 1985; Bitner et al., 1994; Griffith, 2001). Customers and employees are even interdependent on each other in this interaction since they integrate their resources and create value together.

When the service is realized through resource integration, value is said to be co-created by the customer and the employee (Prahalad and Ramaswamy, 2002; 2004). In short, the power of co-creation is to get resources to interact in new and better ways. The customers and employees are crucial to this. Hence, the dyad between the customer and the employee; the interaction, activities, their knowledge and skills within this dyad, have a direct impact on the value co-creation process since they integrate their resources in order to co-create value. In 1994; Bitner et al. shed light on the customer-employee dyad when emphasizing that customer resources were just as important as company resources during service provision. However, surprisingly little empirical research has focused on how customers and employees integrate resources and co-create value. How do they interact, and hence how do they integrate their resources, and what are the roles of the customers and employees during value co-creation?

During interactions, people enact roles (see, for instance, Moss et al., 2000) that have an impact on value co-creation. A role is here defined as customers' and employees' knowledge, skills, and motivation and the enacted role explains how customers and employees co-create value by resource integration. Little is mentioned in previous research about the roles of the customer and employee in value co-creation (Prahalad and Ramaswamy, 2004; Grönroos and Ravald, 2011). Grönroos and Ravald (2011) state that more research is needed on issues related to value co-creation. Vargo et al. (2008) even mention that the roles of the customer and employee are not distinct when it comes to co-creation. This is in line with Prahalad and Ramaswamy (2004) who state that the distinct roles that exist when value is seen as being co-created rather than created disappear. Prahalad and Ramaswamy (2000:79) have compared business competition with traditional theatre: "On stage, the actors had clearly defined roles, and the customers paid for their tickets, sat back, and watched passively." In business, the actors understood and adhered to their well-defined roles (Prahalad and Ramaswamy, 2000). This scenario has changed; customers and employees are stepping out of their traditional roles in order to take on the role of the co-creator of value. Akaka and Chandler (2011) have proposed a framework that suggests that actors continually draw on social roles when co-creating value with different actors. Despite these advances, more empirical research is needed into the roles that the customer and employee enact during a co-creation process; also, how constellations of roles develop and function needs to be illuminated. In this thesis it is not the social roles that Akaka and Chandler (2011) focused on that will be the focal point. Social roles can be seen as assigned roles since they are based on a set of expectations about the proper way to behave (e.g. being a mom, daughter, student, doctor, friend). It is rather claimed in this thesis that the roles are enacted (Moss et al., 2000) rather than assigned. Thus the roles can vary due to changes in knowledge, skills, and/or motivation of a customer or employee.

1.1 Service research and S-D logic

This thesis studies role constellations in value co-creation from the perspective of service dominant logic (S-D logic). Role constellations refer to relatively stable combinations of customer and employee roles. S-D logic has challenged existing views on marketing and broadened service research by focusing not on the offering but on value co-creation (Lusch et al., 2008). In S-D logic, the emphasis is on value co-creation between actors such as customers and employees, and on actors as resource integrators. Resource integration and the use of resources are key factors in value co-creation, and they are also key in this thesis. Resource integration refers to the incorporation and application of a customer's resources within an organization's resources (Moeller, 2008). Value is created through this resource integration, when the customer integrates and operates on or applies the resources of the service provider with other resources in their own context. Resource integration is about the customers' way of realizing value co-creation. In addition, through direct interaction (when an organization creates the opportunities to engage with its customers by, for instance, offering call centres or Internet-based self-services), the employees' have the possibility of engaging in the customer's value co-creation processes and becoming the co-creators of value together with the customer (Grönroos, 2011). Hence, interactions are pivotal to value co-creation; this thesis agrees with S-D logic when implying that the value of a service does not exist *per se*, but is a function of resource integration and value co-creation.

In S-D logic resources – operand and operant - do not "have" value *per se*, rather value is co-created between actors when resources are used. Actors can be providers (e.g. employees), customers, and others, e.g. partners in a wider network. Operand resources are depletable and static in nature whereas operant resources can be rejuvenated, replenished, and newly created, thus being dynamic in nature. Besides, operand resources are 'resources on which an operation or act is performed', as examples 'land, animal life, plant life, minerals and other natural resources' are mentioned. Operant resources (skills and knowledge) are employed to act on operand resources and other operant resources (Vargo and Lusch 2004:2). It is important to note that 'operant resources are the fundamental source of competitive advantage' (Vargo and Lusch, 2008a:6). Skills and knowledge are the most important operant resources (Vargo and Lusch, 2004) and, since it is the employees and customers who possess skills and knowledge, it is surprising that scant empirical research has been conducted into the roles they enact when integrating their knowledge and skills into co-creating value (Heinonen et al., 2010). It seems as if "the roles of the firm and the customer, respectively remain unclear" Grönroos (2011:17).

1.2 Customers' and employees' roles

This thesis agrees with S-D logic in claiming that knowledge and skills are important and, in line with S-D logic, considers the *usage* of these knowledge and skills to be even more important since it is through usage that value is created. Besides, some usage occurs through resource integration and this thesis suggests that resource integration occurs during the enactment of roles and that, in addition, various role constellations are formed. I will focus on the role constellations by examining the direct interaction between the customer and employee using the role concept in order to analyze which different roles (and role constellations) customers and employees may enact during the value co-creation process. The reason for doing this is to understand how value is co-created in the customer-employee dyad, which is referred to in cases when they adapt to each other's roles as role constellation. When actors adapt their roles, the customer role and the employee role should ideally complement each other in a specific situation. Hence, one actor (e.g. a customer) needs to be willing to interact with another actor (e.g. an employee) in a particular way (Akaka and Chandler, 2011), and with a specific aim.

According to S-D logic, the customers and the employees bring knowledge and skills into the co-creation process, which makes them the co-creators of value (Payne et al., 2008). This emphasizes the importance of the interaction between the customers and employees. However, the influence of roles; i.e. the enactment of roles, role ambiguity, role clarity, and role conflicts have not been discussed explicitly within S-D logic thus far. There are multiple definitions of a *role*, here follows two. First, Mullins (2007:316) defines a role as "the expected pattern of behaviors associated with members occupying a particular position within the structure of the organization". Second, Solomon et al. (1985:102) claim that a role "guides and direct an individual's behavior in a given setting". The role, or roles, that customers and employees enact is influenced by situational factors and personal factors (Mullins, 2007). Situational factors include for example the requirements of the task, while personal factors include for example motivation. As can be seen from the two definitions (Solomon et al., 1985: Mullins, 2007) the behavior aspect is emphasized when explaining the meaning of a *role*. This thesis has focused on the part of a behavior that can said to be dependent on knowledge and skills. Therefore a role is defined as customers' and employees' knowledge, skills, and motivation and the role explain how customers and employees co-create value by resource integration. In line with Mullins (2007) it is the perceived role of customers and employees that is focused on. Hence, how the customers and employees perceive their role.

Since value co-creation is not about knowledge and skills *per se*, but about knowledge and skills in action, I will add to previous research findings by including motivation and the role constellation between the actors as key concepts in value co-creation. In my empirical studies, conducted in an e-government context (a presentation of the empirical context can be found in the next section, 1.5), I found that motivation has an impact on how knowledge and skills are used and thus also an impact on value co-creation. I found customers' and employees' motivation to be crucial to their willingness to co-create. For instance, several employee respondents expressed that too much administration seemed to make them unmotivated. This meant that their specific knowledge and skills became less important. Hence, although they possessed important knowledge and skills, these were blurred due to a lack of motivation, which affected the process of co-creation. Prahalad and Ramaswamy (2000) has a similar approach when explaining that the knowledge the customers bring into an organization is a function of the knowledge and skills they possess, their *willingness* to learn, and their ability to engage in an active dialogue. Therefore, it is claimed that motivation is dependent on circumstances and situations (Schein, 1980 and Rabey, 2001) and crucial in the shaping of customer/employee interactions since motivation has an impact on how knowledge and skills are used and, as a result, an impact on value co-creation, too.

The role concept is also used to shed light on how actors collaborate and work together in direct interaction (Grönroos, 2011) in order to cultivate knowledge exchange (Herrmann et al., 2004). In social science, the role concept assumes that people interact with respect to their role, taking certain roles as a basis for their social interaction and communication (Parsons and Shils, 1965; Herrmann et al., 2004). Therefore, a person's activities and interaction are shaped by roles and vice versa (Herrmann et al., 2004). Roles can be clear to varying degrees and there might be a conflict of interest, and thus role conflicts that have a major impact on value co-creation. However, the roles and the role constellations might have a profound impact on value co-creation.

Various customers and employees can enact different roles (Katz and Kahn, 1966: Kerr, 1978) during value co-creation, which may explain differences in interactions and value co-creation. Furthermore, various role constellations are formed. 'Constellation' can be defined as a combination of interacting phenomena (www.ne.se). According to Kets de Vries (2003), a role constellation shows which roles complement each other by, for example, building on others' strengths. Role constellation, according to Hodgson et al. (1965), is an arrangement marked by a division of role tasks and responsibilities along complementary lines, and some type of negotiated understanding designed to maintain a requisite and robust psychological distance between its members, e.g. customers and employees. My definition of a role constellation is in line with Hodgson et al. (1965) when they claim that a role constellation consists of relatively stable combinations of customer and employee roles. It emerges as an affect of mutual adaptability, meaning that customers and employees adapt to the needs, strengths, and weaknesses, etc of each other when interacting. Hsieh et al. (2004) note that the interaction process may vary depending on the involvement of specific employees and customers. Possible reasons for this can include underlying knowledge, skills, or motivation that give the participants of the role constellation different requirements to co-create value.

In order to create favourable prerequisites and opportunities for value co-creation, it is important to know what kinds of roles constitute a constellation, what knowledge and skills are needed, and how motivation is affected. Hence, studying how role constellations affect/drive how the value co-creation process looks is a key research endeavour. More on the knowledge gap next.

1.3 Knowledge gap

As previously stated, co-creation and resource integration take place via direct interaction between the customers and employees. Little is known about this interaction; i.e. how customers and employees co-create value. We know that the distinct roles of the customers and employees in the traditional value creation process are not valid during a co-creation process (Prahalad and Ramaswamy, 2004). Knowledge is thus needed of how value is co-created via resource integration. What are the roles and role constellations of the customers' and employees'? What does it mean when a customer or an employee enacts a role?

When people interact, they enact various roles depending on the situation (compare, for example, your professional roles with your private roles). This occurs in all situations but has not, to my knowledge, been empirically studied from the perspective of value co-creation. Two actors with different roles, i.e. one customer role and one employee role, which complement each other, constitute a role constellation; in other words, the knowledge and skills needs to adapt to each other in order to constitute a role constellation. If the roles are not adaptable, or fail to complement each other, the knowledge and skills constituting each role will not fully be taken advantage of and there will be no role constellation. Consequently, for managers, it is important to be aware of role constellations. It is thus surprising that the knowledge, skills, and motivation needed to enact a certain role have been neglected in the context of co-creation within the customer-employee dyad. I argue, therefore, that more research is necessary into the enactment of roles in the customer-employee dyad in order to find out how value is co-created. Therefore, this thesis will contribute to the existing literature on value co-creation within service research.

1.4 Aim

Two main issues will be outlined in this thesis. The first relates to an ambition to contribute to service research by expanding the literature on resource integration and value co-creation using e-government as an empirical context to outline customers' and employees' roles in value co-creation. In empirical service research, the focus has thus mostly been on the value creation of the customer (Arnould et al., 2006: Lusch et al., 2007). I will contribute to this research stream by focusing on both the customers' and the employees' roles and role constellations when integrating resources and co-creating value. The appended papers 1, 2, and 5 relate to this issue. Service research is used in all these papers as a means of describing e-government and how it has changed resource integration and hence how value is co-created.

The second issue relates to which roles customers and employees enact in resource interaction when co-creating value. Appended Papers 3 and 4 relate to this issue.

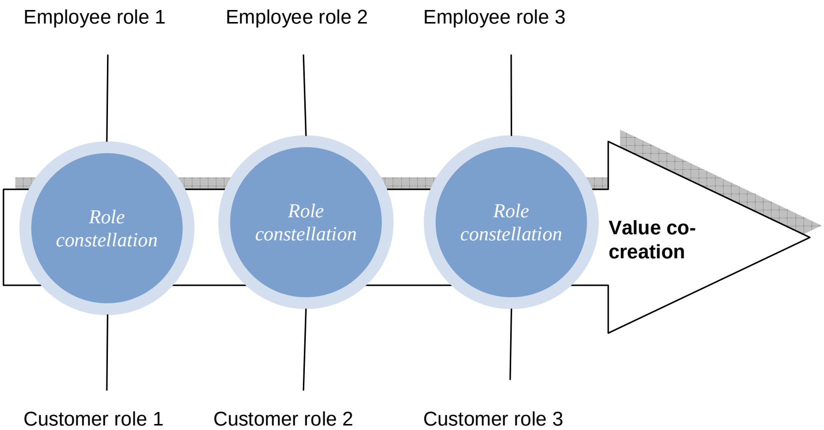

Figure 1: Customer and employee role constellations in value co-creation.

The overall aim of the thesis, as illustrated in Figure 1, is *to describe and explain how value is co-created by addressing the customer-employee role constellations during direct interaction*. This will be achieved by identifying customers' and employees' resource integration when co-creating value. Hence, by analyzing how they integrate their resources, suggestions will be made regarding various role constellations. The arrow in the figure indicates a value co-creation process where the role constellations consist of one employee role and one customer role. The roles consist of knowledge, skills, and motivation. The arrow in the figure also indicates that value co-creation is a dynamic process (Heinonen et al., 2010). The constellation can change during the process of value co-creation. It can, for example, be about a customer who enters the process with little knowledge. After meeting with an employee, the customer will have gained more knowledge and will feel more secure in the process. Hence, the customer enacts another kind of role. This dynamic, characterized by continuous updates (Heinonen et al., 2010), makes the role constellations and the value co-creation process interdependent.

The main aim of the thesis is made up of five part aims, which all derive from the appended papers.

- To review selected literature on e-government service orientation and highlight differences between academic theory and empirical findings. (Paper 1)
- To describe and analyse the effects of e-government service design as perceived by employees. (Paper 2)
- To show the influence exerted on the employees' professional identities by viewing their activities and interactions in an e-government context. (Paper 3)
- To describe the customer's role during the co-creation process in an e-government context. (Paper 4)
- To identify and explain how value co-creation, in an e-government context, can be facilitated. (Paper 5)

In section 1.6 Research process, it is shown how the papers are connected to each other. First, however, there is a presentation of the empirical context of the study; e-government.

1.5 E-government

When Shostack and Grönroos published their influential works on service research in the late 1970s, many industrial countries were about to enter a service economy (Carree et al., 2002). When Vargo and Lusch published their work on S-D logic in 2004, many public organizations were entering the World Wide Web. The empirical context within which the present study is positioned derives from this recent development in technology which has had an impact on service delivery, how the organization interacts both internally and externally, something which in turn has affected the roles of the customer and the employee. Advances in technology and the shift towards a service-oriented economy (Dewettinck and van Ameijde, 2011) are forces underlying the development of e-government. The EU defines e-government thus:

> *eGovernment is about using the tools and systems made possible by Information and Communication Technologies (ICTs) to provide better public services to citizens and businesses. Effective eGovernment also involves rethinking organisations and processes, and changing behaviour so that public services are delivered more efficiently to the people who need to use them (European Commission, 2011).*

This quote indicates that, through e-government services, new technologies are being added to the dyad which consists of customers and employees. These technologies create a new arena for co-creation, making it necessary to change behaviour. In line with Prahalad and Ramaswamy (2004) "in the conventional value creation process, companies and consumers had distinct roles of production and consumption […] but as we move toward co-creation this distinction disappears. Increasingly, consumers engage in the processes of both defining and creating value. The co-creation experience of the consumer becomes the very basis of value" (Prahalad and Ramaswamy, 2004:5). Hence, new roles are born for customers as well as employees. Little is known about these roles and how they function together. This is an issue in this thesis and it is also a reason why e-government is a fruitful context to study the co-creation process within the customer-employee dyad. Due to new technologies being added to the customer-employee dyad, new roles are emerging which have entailed change and this is something that the actors involved in the co-creation of these services have been forced to reflect on.

E-government is a research area closely connected to e-service since these two have their roots in the technological developments of recent years. This is an important area of research since governments and public organizations throughout the world have invested in creating 24/7 agencies, i.e. public authorities that are accessible 24 hours a day, seven days a week. In developing such public authorities, modern ICT has been utilized.

The resource integration and value co-creation processes have been studied within two e-government contexts; the Swedish Public Employment Service (PES) and the Swedish Customs Service (CS). As already mentioned, the field of e-government has a lot in common with the research field of e-service. There are, however, some important differences. First of all; e-government is about the exercising of public authority and about service delivery. Second, in an e-government context, there is no possibility of choosing customers, in order to make the customer base very heterogeneous. Neither are the customers able to choose between various service organizations since no other options are available. Finally, e-government is publicly financed.

Various authors conceptualize e-service as self-service (Dabholkar, 2000; Sara, 2000; Zhu et al., 2002). In this thesis, e-government is viewed as part of a wider service delivery system, rather than as consisting solely of e-service. In an e-government context such as a PES, the aim is to find a job. This service could consist of both face-to-face and self-service activities and interactions. Despite e-government services, there are always face-to-face encounters between employees and customers at the PES. One meeting is mandatory and some customers might not need another meeting. Whereas other customers might need several meetings in order to co-create value. Thus, whenever e-government is referred to in this thesis, it will consist of both e-services and face-to-face services. This has to do with the fact that, in an e-government context, there is no option to choose customers. Everyone must be able to take part of the e-government service. Therefore, face-to-face service is still a necessity for people who lack the resources to make use of the e-services available.

More on e-government can be found in Chapter 3. The next section will focus on the research process leading to this thesis.

1.6 Research process

I began my journey as a PhD student in 2005. Vargo and Lusch had just published their first article on S-D logic; a theoretical perspective that would receive lots of attention within the research community. At that point, few realized the future impact of S-D logic. The theoretical perspective of S-D logic has since then been further developed by both founders, but also by other researchers, e.g. Edvardsson et al., (2011), and Skålén (2010). Grönroos (2011) and Heinonen et al. (2010) have a similar approach to service logic. Grönroos (2010) suggests that the role of the provider is to support the customer in his/her value creation and that the service provider has limited opportunities to become the co-creator of value together with the customer. Heinonen et al. (2010:534) suggest that the focus should be on the customer's own value creation: "Instead of focusing on what companies are doing to create services that customers will prefer, we suggest that the focus should be on what customers are doing with services and service to accomplish their own goals". This ongoing discussion about service logic has led to my own, and certainly other researchers', understanding of S-D logic that has been elaborated over the years. For example, in the pioneering 2004 article on S-D logic, Vargo and Lusch referred to value as being co-produced. This term was later altered into co-created (Vargo et al., 2008). Another example where the founders have relabeled the concepts is value-in-context, which was initially termed value-in-use. In the present thesis, this development is reflected in the appended articles. In article one (Åkesson et al., 2008), S-D logic, is not even mentioned. This is due to the early stage which the development of S-D logic was in at that time and the fact that it is not easy to break free from yesterday's standards. Article one is represented by the first part aim: i.e. to review selected literature on e-government service orientation and highlight the differences between academic theory and empirical findings; this is used to describe the empirical context of e-government as a process moving from a bureaucracy focus to a service focus.

Paper 2 is an empirical article with an employee focus. This paper introduces the key concepts of knowledge and skills, customers, employees, roles, and co-creation. It focuses on service design and how the employees perceive the effects exerted on service design caused by the introduction of e-government. The focus is on the effects exerted on the roles, responsibilities, and work content of frontline employees. And it was emphasized that employees need another kind of knowledge and skill set, e.g. computer skills, but also to keep up to date with information, which is nowadays known to spread rapidly. In this paper, there is also put forward that the customers are becoming co-creators in an e-government service context.

In Paper 3, the theoretical concept of organizational socialization was added in order for us to examine the employees' service dominant professional identity. In this paper, the key concept of resource integration is introduced and it is stated that value is co-created during resource integration. We also emphasize that co-creation is realized via knowledge and skills. Hence, the key concepts present in Paper 4 are: customer, role, resource integration, value co-creation, and knowledge and skills.

Paper 4 focuses on SD-logic and on customers, whom we view as part-time employees since they carry out a lot of work on their own and since 'key participants in any service transaction are service employees' (Rafaeli, 1989:245). The key concepts emphasized in this paper are: customers, roles, knowledge and skills, and value co-creation. The emphasis is on the employees' roles as value co-creators.

No further empirical or theoretical context was added to the final paper. In this paper, knowledge from the four previous papers was used in order to explain how to facilitate value co-creation in e-government. The key concepts presented in this fifth paper are: value co-creation, roles, customers, employees, resource integration, and knowledge and skills.

Summing up, this thesis has eight key concepts; six of them (value co-creation, roles, resource integration, knowledge and skills, customers and employees) are present in the appended papers. This means that the remaining two key concepts (role constellation and motivation) are the outcome of this summarizing chapter of the thesis.

1.7 Summary of the appended papers

This section provides a summary of the five papers in this thesis. After Table 1, which provides a summary of the contributions made by the appended papers, each paper will be discussed in more detail.

Table 1: Contributions made by the appended papers

Paper 1	
Title	*E-government and service orientation: gaps between theory and practice*
Aim	To review selected literature on e-government service orientation and highlight differences between academic theory and empirical findings
Type of paper	Research paper, literature review
Contribution	It is concluded that a gap appears to exist between conceptual literature and empirical research. The empirical literature reveals changes different to those proposed in the conceptual literature. Institutional theory is applied in order to understand the fundamental reasons for this gap.
The author's contribution	The main part of the chapters: literature review, methodology, findings, and conclusion and contribution were written by the author of this thesis.
The co-authors' contributions	The article was co-authored by Professor Bo Edvardsson (whose contribution was the idea and writing part of the conceptual framing) and Professor Per Skålén (whose contribution was the idea of the paper and who played a

	major role in the writing regarding institutional theory), both working at the Service Research Center, Karlstad University.
Published/review process	Published in the International Journal of Public Sector Management Vol. 2, No. 1, 2008

Paper 2	
Title	*Effect of e-government on service design as perceived by employees*
Aim	To describe and analyze the effects of e-government on service design as perceived by employees.
Type of paper	Research paper
Contribution	As a result of the introduction of e-government, five dimensions of changes in the service design are revealed; (i) the service encounter and service process; (ii) customers as the co-creators and sole producers of services; (iii) efficiency; (iv) increased complexity; and (v) integration.
The author's contribution	The author of this thesis contributed writings to both the introduction and the entire e-government section of the literature part. Moreover, the author played the largest part in writing the method, findings, and discussion and contribution parts of the paper. The interviews were also carried out by the author.
The co-author's contribution	This article was co-authored by Professor Bo Edvardsson whose contribution was writings in both the definitions section of the literature review and the managerial implications part of the paper. Professor Edvardsson also contributed to the idea to the paper and with writings in the introduction.
Published/review process	Published in Managing Service Quality. Vol 18, No. 5, 2008

Paper 3	
Title	*Towards a service-dominant professional identity: an organisational socialisation perspective*
Aim	To contribute towards understanding how a service-dominant professional identity can be established among the employees of an organization wishing to inculcate the

	tenets of service-dominant (S-D) logic.
Type of paper	Research paper
Contribution	The study identifies four characteristics of a service-dominant professional identity: (i) interaction; (ii) customer orientation; (iii) co-creation; and (iv) empowerment. The study finds that such an identity can be established through five socialisation processes: (i) collective socialisation; (ii) random socialisation; (iii) serial socialisation; (iv) investiture socialisation; and (v) divestiture socialisation.
The author's contribution	The author of this thesis contributed towards writing the literature review, research design, and findings parts of the paper. The interviews were also carried out by the author.
The co-author's contribution	This article was co-authored by Professor Per Skålén who is to be acknowledged for both his analytical skills and his writing skills. Professor Skålén played a large part in writing the discussion and conclusion and implications parts of the paper.
Published/review process	Published in the Journal of Service Management, Vol. 22 No. 1, 2011

Paper 4	
Title	*Customers' co-creational roles: a study of resource integration in e-service*
Aim	To investigate customers' roles and activities in the co-creation of value.
Type of paper	Research paper
Contribution	Four categories of customer role during the co-creation process are identified. The customers are: information integrators, accessibility needers, dialogue keepers, and knowledge transferees.
The author's contribution	Single author
Published/review process	The paper is currently in review in *European Business Review*

Paper 5	
Title	*Value co-creation in e-government*

Aim	To propose a three-factor model for facilitating value co-creation in e-government.
Type of paper	Research paper
Contribution	The contributions made by this study are threefold. First, the study demonstrates that the application of S-D logic enables e-government organisations to facilitate value co-creation. Secondly, the inclusion of material on S-D logic contributes to the literature on e-government, which has previously mainly been based (implicitly or explicitly) on G-D logic. Thirdly, the model proposed here identifies three factors (treating customers and employees as operant resources, horizontal integration, and awareness of the various roles played by customers and employees) which are crucial to value co-creation.
The author's contribution	Single author
Published/review process	The paper is currently in review in *International Journal of Public Sector Management*

1.7.1 E-government and service orientation: gaps between theory and practice

Paper 1 was written in order to get a grip of the empirical context in this thesis. Thus, this article reviews selected literature on e-government service orientation and highlights the differences between academic theory and empirical findings. The focus is on the propensity of e-government to encourage so-called 'service orientation' in public administration. For the purposes of the study, the term 'service orientation' was defined as a set of organisational policies, practices, and procedures intended to foster the creation and delivery of service excellence. In undertaking a review of previous research into service orientation in the field of e-government, the study identified five areas worthy to note: (i) service design; (ii) service systems; (iii) service encounters; (iv) human-resources management; and (v) service leadership. Within these areas, we found that a gap appears to exist between conceptual literature and empirical findings. For example, conceptual research claims that e-government will result in the reduction of staff, yet no empirical findings have proven this to be true. Moreover, we also found that e-government apparently has the potential to affect the service orientation of public-sector organisations, although this has not been explicitly addressed in the literature on public administration. Other examples include; HRM initiatives associated with e-government have the potential to enhance service orientation across traditional bureaucratic lines; face-to-face service encounters will certainly be reduced due to e-government initiatives; service design is likely to be changed by e-government requirements for secure and confidential services; and strong service leadership is likely to be required in order to implement effective e-government.

In order to express an understanding of the fundamental reasons for this gap institutional theory was applied. From an institutional perspective, e-government exerts an 'institutional pressure' in the environment of public organizations. To be considered 'legitimate', organizations are expected to adapt to these demands, and the conceptual literature can thus be understood as a summary of the demands being made upon public-sector entities in terms of organizational design, implementation, and expected effects. The disappointing results reflected in the empirical research can be interpreted, from an institutional perspective, in terms of indicating that e-government is only loosely coupled to organizational action. According to this view, e-government has thus far served as a means of legitimizing the survival of public organizations and can be treated as 'organizational fashion' (Abrahamson, 1996) rather than 'organizational action'.

Finally, the paper concludes that there is a need for more empirical research into e-government from a service perspective.

1.7.2 Effect of e-Government on service design as perceived by employees

The second paper builds on the first paper insofar as it was concluded that more empirical research was needed in the field of e-government and service orientation. In Paper 1, it was noted that most research is conceptual in nature, often characterized by being normative and often raising 'warning flags' about the effects that e-government will have on government organisations and some discussions on the effects for the customers. The research into the effects on the services provided mainly focuses on issues related to the organizational structure, the technical support systems, and challenges in the areas of privacy, security, and democracy. Internal effects on employees' working conditions have been neglected, something which we found a bit surprising since employees have a key role to play in many services, when it comes to e-service contexts too.

Paper 2 explores and discusses some key dimensions of the design of e-government services as perceived by the employees. Service design was one of the five areas of service orientation that originated from Paper 1. In Paper 1, we found that service design was one of the five areas of service orientation with the lowest amount of empirical research. Out of twelve research papers in the literature review, only three were empirical in this area. We thus wanted to shed light on the effects that e-government had on service design. The point of departure is the concept of service focusing on design dimensions and emphasizing the effects from the introduction of e-services. Clark et al. (2000) argue that the service concept can be used as a key tool when designing services. The service concept serves as a guide for making decisions during the design of, for example, service processes. Therefore, it is critical to define the service concept from both the customers' and the provider's perspectives. In this paper, it was noted that a shared vision of the service concept, including value-in-use, is critical. Hence, one of the key concepts of this thesis was introduced in this article, at this time referred to as value-in-use, but later to become value-in-context.

Not much attention has been paid within service research to the design of e-government services. As a result of the introduction of ICT systems, and the use of e-services in a government context, the services offered will to some extent be redesigned. We found a knowledge-gap when it comes to the design and redesign of e-government services. In this article, we have selected the perspective of the service provider, especially the effects on the front-line employees' roles, responsibilities, and work content.

The paper contributes results from an empirical study of two of Sweden's government organizations; the PES and the CS. It investigates how the introduction of e-government has affected/changed service design in these two organizations based on interviews conducted with middle management and front-line employees. The analysis reveals five dimensions of changes concerning the design of the service, as perceived by front-line employees and managers: i.e. service encounter and service process, customers as co-creators and sole-producers, efficiency, increased complexity, and integration. The changes we reveal sometimes have important implications for service design and for our understanding of the consequences of the introduction of e-government. The results led to the third article since it shed light on the situations of the employees working in the environment of an ongoing transition towards an S-D logic.

1.7.3 Towards a service-dominant professional identity: an organisational socialisation perspective

The third paper takes a different perspective to the previous two. In line with Paper 2, it is based on empirical investigations of employees working with e-government services. In this third appended paper, however, we put even more of a focus on the employees and their work situation by drawing on the theory of 'organisational socialisation' when presenting a case study of the inculcation of S-D logic among the employees of the PES. In particular, the case study focuses on how the introduction of a new e-government programme at this organisation socialised the employees into adopting a new service-dominant professional identity. The study analyses both: (i) the *content* of this new service-dominant professional identity; and (ii) *how* it was actually established in practice.

According to Hall (1987, p. 302): "Socialization refers to the process by which persons acquire the knowledge, skills, and dispositions that make them more or less able members of their society". It would seem that 'organisational socialisation' is an appropriate theoretical perspective for analysing how S-D logic might be established in organisations since it can be utilized to study how operant resources, the employees in particular, acquire certain skills and knowledge. Moreover, given that the processes of organisational socialisation are said to provide employees with a so-called "professional identity", which has been defined as a "relatively stable and enduring constellation of attributes, beliefs, values, motives, and experience in terms of which people define themselves in a professional role" (Ibarra, 1999, pp 764–5), it is the contention of the present study that the inculcation of S-D logic in a given organisation can be analysed in terms of the establishment of what might be called a new 'service-dominant professional identity' among the employees of that organisation. Hence, in this third paper, the key notices of operant resources and employees in particular were in focus; this is also the paper in which S-D logic was clearly focused on as a theoretical cornerstone, together with organisational socialization.

The study identifies four characteristics of a service-dominant professional identity: (i) interaction; (ii) customer orientation; (iii) co-creation; and (iv) empowerment. Hence, these were the four categories of change in the knowledge and skills base of the front-line employees. The study also shows that a service-dominant professional identity can be established through five socialization processes: (i) collective socialization; (ii) random socialization; (iii) serial socialization; (iv) investiture socialization; and (v) divestiture socialization.

1.7.4 Customers' co-creational roles: a study of resource integration in e-service

In the fourth appended paper, we shifted the focus away from the employee's towards the customer's part in the co-creation process. We had our doubts regarding whether or not we really should shift the focus to the customer. Our doing so is dependent on the fact that, in an e-government context, the customer does much of the work him- or herself by means of, for example, self-service. Developments in technology have provided the prerequisites for more active customers in terms of getting information and networking, hence making it easier for them to engage in the co-creation of services. This, we believe, makes the customer a part-time employee and, using that concept, the focus was still on the employee, albeit another type of employee. This paper draws on a study of an e-government service. E-government can be seen as an innovative way for government organizations to co-create value with their customers, since e-government paves the way for the customer to take part in the service more easily, e.g. via Internet-based self-service. Consequently, an e-government service allows the customer to integrate more resources than a traditional government service does and it thus becomes an enabler of value co-creation. The aim of the paper was to investigate the customers' roles and activities in the co-creation of value. Based on interviews conducted with front-line employees and customers of the PES, it is concluded that customers may be seen as part-time employees. The analysis reveals four categories of customer role and customer contribution during the co-creation process. The findings suggest that customers can co-create value with service providers in different ways, and that customers constitute four different kinds of resource integrators; information integrators, accessibility needers, dialogue keepers, and knowledge transferees. We define resource integrators as operant resources who combine resources with their application to realize the sought-after value in context.

1.7.5 Value co-creation in e-government

In the fifth paper, knowledge arising from the writing of the previous papers was combined in order to attempt to build a three-factor model aimed at provide guidance to public sector organizations that seek to create an arena where customers and employees can engage in value co-creation. The paper argues that, in order for e-government service to be successful, it is necessary for those administering that service to take the three factor model into consideration. The three-factor model is based on conceptualization that is based on S-D logic, previous e-government research, but also to some extent on empirical data that mainly illustrate G-D logic. According to the model; horizontal integration, treating customers as operant resources, and awareness of the various roles customers and employees can have facilitates value co-creation. Horizontal integration consists of 'resource integration and reconfiguration' and 'collaboration and interaction'. Resource integration is an important element allowing the process of collaboration to function. By integrating resources (e.g. shared computer systems), an initial step towards horizontal integration is accomplished. The three factors will help to facilitate understanding of the challenges inherent in supporting customers in their value co-creation.

1.8 Structure of the thesis

Together with the five appended papers, the five chapters shown in figure 2 constitute this thesis.

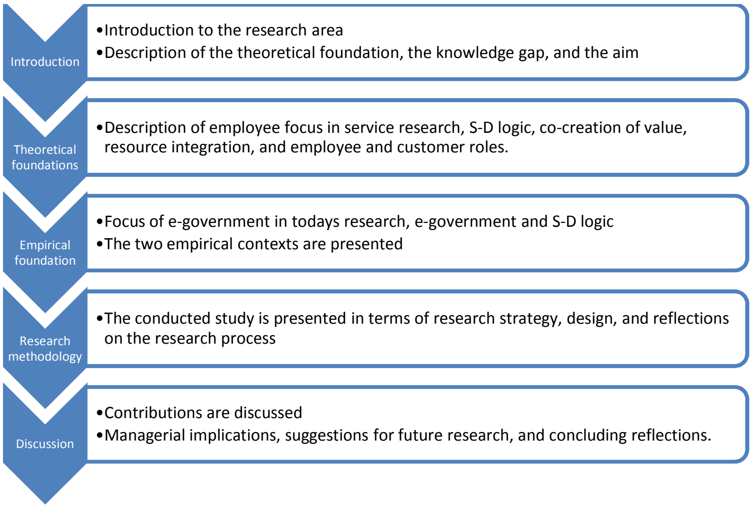

Figure 2: Structure of the thesis

The first chapter is an introduction wherein the thesis is positioned in relation to the theoretical foundations together with an understanding of the current knowledge base. The aim is also stated here at the beginning of the journey. Following the introduction, the theoretical foundations will be presented. This focuses on S-D logic and the co-creation of value, resource integration, and role constellation. The third chapter gives a description of the empirical foundation. How the research has been conducted, the research methodology, is the content of part four. The fifth and final part of the chapter consists of contributions, managerial implications, concluding reflections, and suggestions for future research

2 THEORETICAL FOUNDATIONS

This chapter outlines the theoretical foundation for the thesis. The chapter will focus on notions relevant to understanding direct interactions between customers and employees, since it is in the context of this interaction that the customer and the employee jointly co-create value (Grönroos, 2011). First, the focus will be on the customer and the employee as presented in service research. Then, S-D logic research will be reviewed, followed by value co-creation and resource integration. Finally, research into customers' and employees' roles, including role constellations, will be discussed.

2.1 Employee and customer focus in service research

In order to be able to offer a scholarly and managerial understanding of how employees and customers integrate resources when co-creating value, it is important to begin by describing the development of the concept of 'service' and the growth of the customer-employee focus in service research.

Service marketing management developed out of marketing, which was initially functional, institutional, and focused on purely physical products. Around 1950, and with the articulation of the marketing concept, marketing theories shifted towards making companies more customer-oriented. The focus was on the 4Ps marketing mix, segmentation, and demographical models; a focus on the interaction between customers and employees and their roles was lacking. McGregor (1960) focused on management practices aimed at increasing employee productivity and, during the 1960s, a debate started as to whether or not services are different to goods (Brown et al., 1994). This distinction between goods and services is less interesting nowadays.

In 1977, Lynn Shostack claimed that the central managerial practices of marketing management, the 4Ps marketing mix, fostered the customer-orientation of products but not of people, making it inappropriate for marketing decisions in service organizations (Skålén, 2010). In service marketing, as stated in the introduction, the employee is often said to be the service; the perceived service is directly related to the employee (Grönroos, 1978; Bitner et al., 1994; Griffith, 2001; Solomon et al., 1985).

When research articulated the employee's part of the service, models for controlling the workforce were developed, e.g. the gap model. Roles and norms regarding service employees' behaviour were also initiated (Hochschild, 1983; Eisenhardt, 1985; Snell, 1992; Rafaeli and Sutton, 1987). The importance of employees in a service context has also been discussed (Rafaeli, 1989; Scheider et al., 1980). Other research into employees within service research has focused on service climate (Mayer et al., 2009), managing and training employees (Bowen and Ford, 2002; Chu, 2002; Daly et al., 2009; Humphrey, 2002), and service quality (Grönroos, 1990; Zeithaml et al. 1988; Zeithaml et al. 1996). Grönroos (1990) approached the role concept when emphasizing the importance of individual differences and behaviors on customers and employees.

Although service encounter research focused on customers and employees, we were still lacking a focus on the interaction between them and their roles and role constellations. This interaction came to light in the 1990s, when personal relationships between customers and employees were discussed in the marketing literature (Beatty et al., 1996: Bitner et al., 1990). Concepts such as interactive marketing (Grönroos, 1982), part-time marketers (Gummesson, 1991), and moment-of-truth (Normann, 1984), also focused on the interaction between customers and employees. Although, the customer-employee encounter focus received attention, for example from Grönroos (1982) who stated that how an organization manages buyer-seller (customer-employee) interactions is important when it comes to achieving success in the marketplace, little has been done to sort out their roles. Schneider (1986) approached the subject when putting forward the need to have service-oriented employees, where in particular the personality of the employees was in focus. Similar to Bowen and Schneider (1988), who also approached the subject of roles when putting forward the importance of employee attitudes and behaviours when interacting with and serving customers. Hence, Bowen and Schneider have emphasized customer-employee interaction (Bowen and Schneider, 1985), but they have mainly focused on the employee, whom they see as the key to effective service marketing (Bowen and Schneider, 1988). Rafaeli (1989) studied the role of service employees in a supermarket context in Israel, finding that the employees suffered from role ambiguity and role conflict. This occurred, for example, when the customers' expectations did not correspond to management rules. Rafaeli (1989) did not, however, provide any concrete examples of the various roles that employees could enact in situations where they were interacting with their customers.

When the focus was on products rather than services, value was seen as *being* designed into products, at one location and point in time, and transferred to customers through exchange. Value was viewed as being embedded in units of output, products and services. With this view of value, the employees could just wave goodbye to the customer once the transaction had been finalised since the value was in the transaction. With the Vargo and Lusch (2004) article on S-D logic, the development of service marketing took another step. S-D logic is, together with 'relationship marketing' and 'IMP group' (e.g. Hakansson and Snehota, 1995), a stream of marketing research that has criticised the view of the customer as a passive receiver of the value produced by the firm (Addis and Podestà, 2005). The phrase 'marketing with' was used by Lusch and Vargo (2006:413) as a means of showing the difference from G-D logic's focus on 'marketing to'. The co-creation of value is the centrepiece of S-D logic (Peñaloza and Mish, 2011) and the view of value co-creation is that it is the customer who creates value and assesses value-in-use (Vargo and Lusch, 2004) or value-in-context (Vargo, 2008). The term 'value-in-context' has subsequently been used instead of value-in-use since value-in-use was influenced by the G-D logic lexicon and since it goes beyond *using* firm output (Vargo, 2008), e.g. products, services, or information. With this view of how value is co-created, it is important to provide insights into how the roles of the employees and customers form role constellations in order to co-create value. Bitner et al. (1990) said this back in 1990, albeit using other words, when noting that the interplay between the customer and the employee is particularly salient in the customer's evaluations of the service.

Summing up, although the notion that customers co-produce services with employees has been noted in service research for some time now (see, for example, Grönroos, 1982), just how the roles of the employees and customers form role constellations has hitherto been neglected. The next section will put further emphasis on the S-D logic.

2.2 The Service Dominant Logic

As stated earlier, marketing management's main concern has been the customer-orientation of organisations, with either a goods or a product focus, and not explicitly issues specific to services. According to Vargo and Lusch (2008), this also holds true for service marketing management, which has focused on units of output, e.g. services rather than service, and also because previous marketing research has been informed by the G-D logic, e.g. by usage of the same concepts and language. A focal point in S-D logic is the distinction between operant and operand resources. Operand resources are depletable and static in nature while operant resources can be rejuvenated, replenished, and newly created, thus being dynamic in nature. Moreover, operand resources are the ones on which 'an operation or act is performed', e.g. 'land, animal life, plant life, minerals and other natural resources', while operant resources are the 'skills and knowledge' employed to act on operand resources and on other operant resources (Vargo and Lusch, 2004:2). Furthermore, Vargo and Lusch articulate that 'operant resources are the fundamental source of competitive advantage'. This suggests that the employees and customers (since they are the ones having the knowledge and skills) are the ones who should have the managerial focus, in line with Heskett et al. (1994), who imply that frontline workers and customers need to be at the centre of management's concern.

According to Vargo and Lusch (2008), service is an interactive process of "doing something for someone" which derives value. Service becomes the unifying purpose of any business relationship, seen from any perspective, through resource procurement, production, distribution, and consumption (Lush and Vargo, 2006). Vargo and Lusch believe that the new perspectives are converging to form a new dominant logic for marketing, one in which service provision, rather than goods, is fundamental to economic exchange. They define a service as "… the application of specialized competences (knowledge and skills), through deeds, processes, and performances for the benefit of another entity or the entity itself". This implies that S-D logic sees employees and customers as 'operant resources' instead of 'replaceable operand resources'. The employees and customers 'become the primal source of innovation, organizational knowledge, and value' (Lusch et al., 2007:15). In simple terms, service can be understood as a process; interactions between employees and customers in which the positive outcome of the service is experienced as value-in-context. Moreover, Lusch et al. (2007:9) state; "the only true source of competitive advantage is *knowledge* – the operant resources that make the service possible". S-D logic is grounded on ten foundational premises which will be emphasized next.

2.2.1 Foundational premises

SD logic has put forward ten foundational premises, described in Table 2.

Table 2: The ten foundational premises of S-D logic (Vargo, 2008).

Foundational premises of S-D logic
1. Service is the fundamental basis of exchange
2. Indirect exchange masks the fundamental basis of exchange
3. Goods are distribution mechanisms for service provision
4. Operant resources are the fundamental source of competitive advantage
5. All economies are service economies
6. The customer is always a co-creator
7. The enterprise cannot deliver value, but only offer value propositions
8. A service-centred view is inherently customer-oriented and relational
9. All economic and social actors are resource integrators
10. Value is always uniquely and phenomenologically determined by the beneficiary

The first foundational premise (FP1) is: *Service is the fundamental basis of exchange*. According to this premise, everything is service. This means that the application of operant resources (knowledge and skills), service, is the basis for all exchange (Vargo, 2011). Thus, no separation between goods and service exists, e.g. IHIP. The second FP extends this idea and asserts that it is the final value to a customer that is important, and this is service. *Indirect exchange masks the fundamental basis of exchange*. Goods, money, and organizations seem to be something other than a service, but they only mask the fact that all a society is able to offer customers is, in fact, service. Also, it is organizations, various groups, and individuals within a society who integrate various resources, in turn creating the prerequisite for service (Kristensson, 2009). Hence, the context of value creation is networks of networks, which is related to FP9: *All economic and social actors are resource integrators*. In this thesis, it is the roles of the employees, and of the customers as resource integrators, that are in focus. FP3 states: *Goods are distribution mechanisms for service provision*. According to this premise, goods are only valuable if they are used and are thus only a distribution mechanism for service.

A key assumption in Vargo and Lusch's logic is that resources – operand and operant - do not "have" value *per se*, rather value is co-created with customers when resources are used. According to S-D logic, the employees of an organization must be treated as operant resources. This will result in employees being more empowered in their role as value co-creators. The leader must be a servant-leader who serves the employees in order for them to develop new ways of providing service (Lusch et al., 2007). Exchanging an individual's application of knowledge and skills (operant resources) for knowledge and skills not specialized by the individual is a central notion of S-D logic and, according to Vargo and Lusch (2006), it is fundamental to human well-being. This concern FP4: *Operant resources are the fundamental source of competitive advantage*. In this thesis it is the usage of the operant resources that is viewed as important since it is in the usage that value is created.

FP5 states: *All economies are service economies*, meaning that the outcome of the use of goods and services is service. This must be articulated in singular, not in plural, since that is what has classically been used in G-D logic. This is an example of the importance of breaking free from G-D logic. New concepts are needed, otherwise there will be a risk of getting stuck in G-D logic thinking.

Ballantyne and Varey (2008) claim that marketers are only able to make value propositions since it is the customers that determine what they value-in-context. Similar to FP6: The customer is always a co-creator, and FP7: *The enterprise cannot deliver value, but only make value propositions*. According to Vargo and Lusch (2007:7), the seventh premise indicates: "enterprises can offer their applied resources for value creation and collaboratively (interactively) create value following acceptance of value propositions, but cannot create and/or deliver value independently". This is because it is the customer who integrates resources in order to co-create value. Moreover, since the value is uniquely determined by the customer, S-D logic recognizes that an organization cannot create value (Lusch et al., 2008). Payne et al. (2008) claim that the value proposition exists in order to facilitate value co-creation.

FP8 states: *A service-centred view is inherently customer-oriented and relational* (Vargo and Lusch, 2007). Due to service being defined in terms of customer-determined benefit and co-created, it is inherently customer-oriented and relational. Relational implies that both the offerer and the beneficiary of a service collaboratively create value (Vargo and Lusch, 2007), e.g. both the customer and the employee take part in the value co-creation process. The premises further imply that value co-creation is an interactive process (Vargo and Lusch, 2007) and since, according to the final premise: *Value is always uniquely and phenomenologically determined by the beneficiary*, e.g. the customer, it is inherently customer-oriented.

Summing up, the concepts of the 'co-creation of value' and 'resource integration' are key concepts in S-D logic, which is expressed in the ten foundational premises, since one can argue for the presence of one or both of these concepts in nearly all of the premises. This is also supported by Vargo (2011) who claims that foundational premises 1, 6, 9, and 10 are core to S-D logic. Jointly, these four premises form the basis for resource integration and value co-creation and can be connected to role and role constellations since customers and employees are viewed as resource integrators (in line with FP9) with knowledge and skills (FP1). The roles and role constellations also assume that value is uniquely and phenomenologically determined by the beneficiary (in line with FP10). However, the roles and role constellations in this thesis do not assume that the customer always is a co-creator (FP6). As I will show in the next section, I agree with Grönroos and Ravald (2011) that there are times when customers create value by themselves.

Due to the presence of the 'co-creation of value' and 'resource integration' in most of the premises, and since they are connected with the aim of this thesis, i.e. to analyze customer-employee role constellations during the value co-creation process, the next section will delve deeper into the two concepts, starting with the co-creation of value.

2.3 Co-creation of value

Prahalad and Ramaswamy introduced the concept of co-creation in 2000 and in 2004 they showed that value should be understood in terms of being jointly created by the organization and the customer, instead of created entirely inside the organization and designed as pre-defined offerings and thus transferred to the customer. Vargo and Lusch, (2004, 2008) claimed that the customer is always a value-co-creator. Others have also emphasized value; Grönroos (2008) claimed that the customers are value creators and service organizations are value facilitators. The salient role of the customer is also emphasized in Grönroos and Ravald, 2011 who conclude that it is the customer who creates value since it is he/she who wants the service to do something of importance for him/her. Hence, the customer decides what value he/she wants to create. Grönroos and Ravald mention, for example, that toothpaste is not just used for brushing one's teeth, but also to make the user feel fresh and confident among friends (Grönroos and Ravald, 2011:8).

If it is the customer who creates value, then what is the employees' role and contribution? The employee receives opportunities to influence the process of value creation. This is when he/she becomes a co-creator of value with his/her customers (Grönroos, 2008). It also occurs through interaction, defined as "a mutual or reciprocal action where two or more parties have an effect upon one another (Grönroos and Ravald, 2011:11). According to Grönroos (2011), it is during direct interaction that the employees have the possibility of influencing the customer's value creation, making them value co-creators.

Prahalad and Ramaswamy (2000) proposed co-creative organizations with the emphasis on customer involvement. Ramaswamy and Gouillart (2010) state that actors such as customers and employees want to insert themselves into the activity chain. They no longer want to 'receive' what is defined and offered by the organization, but to be open instead to the possibility of enhancing value in their own activities. This sounds as if all actors are active in their value co-creation processes. This thesis implies, instead, that all actors can enact various roles and that the 'activity level' varies from role to role. In other words, some roles are more active than others, something which will be discussed further in Chapter five.

Grönroos and Ravald (2011) divide the customer's value creation process into two parts; one open and one closed. It is only the open part that consists of interactions and it is, thus, here alone that the employee can access the customer's process of value creation and become a value co-creator. The employee's process is also divided into two parts; a production phase and an interaction phase. During the production phase, resources are developed for customer use. These could, for example, include a website aimed at facilitating the customer's value creation process. During the interaction phase, the supplier has an opportunity to become a co-creator during the customer's value creation process. This is, as previously mentioned, referred to as direct interaction by Grönroos (2011). During direct interaction, customers and employees learn together and from each other, and may also directly influence each other (Grönroos, 2011).

As stated before, the value co-creation differs between the G-D logic and the S-D logic contexts. In the former, the customers are viewed as being passive; they are researched, observed, segmented, targeted, marketed at, and sold to by the employees of an organization (Vargo and Lusch, 2004). The customers do not engage in any interaction with the company on their own terms. They do not get to decide what to share with the organization (resource integration). They are presented with an offering that is designed for them by the organization. The entire organization views value as a function of its activities, ignoring the role of the individual and his/her activities in the shaping of value (Ramaswamy and Gouillart, 2010). In respect of Grönroos (2011), any discussion about the view that, for the customer, value is an elusive issue, perceived in an individualistic way, the G-D logic perspective on value may not be wise. Grönroos (2011:6) states: "for someone driving a certain car may mean value, whereas for someone else value relates to having an opportunity to meet with friends enabled by the drive made possible by this car. Yet another person may find value already in the process of considering buying a special car or doing the actual purchase".

In S-D logic, on the other hand, value co-creation is shifted from concentrating on resources inside the organization to focusing on individuals, and interaction between all kinds of individuals, e.g. customers, employees, customer communities, and partners. When viewing the value co-creation process from the perspective of S-D logic, the focus is on the interaction (between employees and customers, but also between customers and ICT systems, and between employees and ICT systems), value co-creation, operant resources, resource integration, knowledge and skills, customers, and employees. Hence, when using the lens of S-D logic, value co-creation is a complex process. This process consists of how customers, employees, and other actors integrate and operate upon the resources of the available value propositions (Lusch et al., 2007). Value propositions (Lusch and Vargo, 2006; Lusch et al, 2007; Vargo and Lusch, 2008) are used to communicate what is to be expected from a service, to both the customers and the employees. From the perspective of an organization, one wants to simplify this resource integration, for both the employees and the customers.

The co-creation of value is closely connected with value-in-context since it represents collaborative, customer-specific value creation. The co-creation of value is not normative or optional; it always requires customer involvement and is subjectively measured from the customer's or the employee's point of view. Echeverri and Skålén (2011) refer to two types of value formation: interactive and non-interactive. Interactive is represented by the S-D logic and non-interactive is the exchange view of value, and hence represented by the G-D logic. This thesis view of value resonates with Hoolbrook's (2006) view of value as something that resides within actions and interactions, while being collectively produced but subjectively experienced. Hence, value is an output of the actions and interactions of actors, e.g. customers and employees, but it is always subjectively judged; each and every actor experiences his/her own value and decides what value is to them.

In order to explain the value co-creation process, I believe it is important to take into account the fact that each customer (and employee) has his/her own network of friends, family members, and other service providers which indeed plays a big part in this process of value co-creation; e.g. when an unemployed person is recommended to see a specific employee at the PES by a person whose opinion is valued highly by that unemployed person. The unemployed person will be positively inclined even before that meeting, something which I believe will have an impact on the value co-creation process. Lusch et al. (2010) call this the 'value network' in which actors interact in order to: (1) co-produce service offerings, (2) exchange service offerings, and (3) co-create value. Lusch et al. (2010) state that the value creation networks are constantly changing; therefore, the organization must constantly learn to serve a value network. It can thus be argued that roles may differ from occasion to occasion; drawing closer attention to the reality of the various roles that can be present in an e-government context, which is the subject of interest in the present thesis.

Research into value co-creation has focused on the positive outcome of value co-creation. There is, however, conceptual research that has indicated the possibility of value co-destruction when service systems interact (Plé and Cáceras, 2010; Echeverri and Skålén, 2011). Value co-destruction is the downside of value co-creation and thus refers to a negative outcome from the co-creation process (Bonsu and Darmody, 2008; Cova and Dalli, 2009; Zwick et al., 2008). It refers to the collaborative destruction of value by an actor within the service system, e.g. a customer or an employee. Heinonen et al. (2010:538) claim that co-creation does not necessarily result in value emergence. Similar to Grönroos (2011) who states that, in direct interaction with a customer, the employee's action may have both a positive and a negative impact on the value. Hence, there can be a failure to co-create value. Therefore, knowing how customers and employees form role constellations is important.

There is a lack of systematic empirical research concerning value co-creation through the lens of S-D logic (Echeverri and Skålén, 2011). Payne et al. (2008) present a conceptual framework for understanding and managing value co-creation. By focusing on cognition, emotion, and behavior, they include both customers' and employees' contributions in value co-creation. They claim that customers and employees are on the same level of importance as value co-creators. Hence, the view of Payne et al. (2008) differs from that of Grönroos and Ravald (2011) who give the customer a greater part in value co-creation when they claim that it is the customer who decides what to value. Value co-creation is dependent on resource integration, which will be focused on next.

2.4 Resource integration

Service is a process of doing something beneficial for, and in conjunction with, an entity (Vargo and Lusch, 2008). The process consists of parties (individuals, organizations etc.) who use its resources to benefit themselves or another party. The concept of 'resource' can have several meanings. It can be a source of supply, support, or aid, especially one that can readily be drawn upon when needed. A resource can also be an available means afforded by the mind or one's personal capabilities (www.dictionary.com). In this thesis, 'resource' means a source of aid consisting of personal capabilities, knowledge and skills, as well as tangible resources such as computers. 'Integration' means the act of combining or adding parts to make a unified whole (www.dicitionary.com). Therefore, the definition of resource integration used in this thesis is: resource integration is when customers integrate resources (operand and/or operant) and operate on the resources of the available value propositions.

According to Vargo and Lusch (2008), value is co-created through this integration of resources. Moeller (2008) claims that; integration requires the incorporation of an actor's resources into an organization's resources. This implies that the employee and the customer, as well as other actors in the service system, are part of the value creation process; they jointly integrate resources in order to co-create value. Recall that Grönroos (2011) claims that it is only through direct interaction, i.e. when an organization offers opportunities to engage with its customers through, for example, call-centers or Internet-based self-services, that the organization becomes a co-creator of value. This thesis agrees with Grönroos (2011) in aiming to explain how value is co-created by addressing the customer-employee role constellations during direct interactions. Resource integration directs at all parties uniquely integrating multiple resources for their own benefit and for the benefit of others (Vargo, 2008). Bowen and Ford (2002) state that a high degree of customer integration results in stronger social interaction, implying that the greater the part that the customer plays in the co-creation of the service, the stronger will be the social interaction between the employee and the customer. Sichtmann et al. (2011) agree, suggesting that the customer might need a greater depth of understanding and learning in situations with a high level of customer integration. It is emphasized in this thesis that resource integration is mediated by roles. The role, and the actor's possibilities of acting in accordance with that role (e.g. having the right knowledge, skills, and motivation), affect how resources are integrated, e.g. how they are used during co-creation. When the role of a customer integrates with that of an employee, the interaction between the two roles becomes interesting. This view requires the creation of role constellations. Hence, it is crucial to know what customer and employee roles complement each other during value co-creation.

Resources can be obtained from value networks, e.g. from a friend, as in the recently-mentioned example of the unemployed person who was recommended a certain employee. This is in line with Vargo and Lusch (2008; 2011), who state that integrable resources are obtained from private sources (i.e. self, friends, family), market-facing sources (i.e. from other entities, through economic exchange), or from public sources (i.e. collective access from communal and government sources). In all probability, the service provision of all of these happens simultaneously.

The view that resources are more than material entities is not something that was invented via S-D logic. It is incorporated into the "resource-based theory", which emphasizes the strategic value of an organization's intangible resources in the form of the distinctive knowledge, skills, and competencies that can generate sustainable competitive advantages (Barney, 1991; Arnould, 2008). S-D logic can be said to be partly founded on the resource-based view. Lusch et al. (2008) are of the opinion that resources require integration in order to become valuable in terms of benefiting a specific actor; thus, they are "potential resources". Mele (2009) adds to the description of resource integration by claiming that it occurs in accordance with the actors' expectations, needs, and capabilities. Mele et al. (2010) conclude that the value co-creating potential of a firm not only depends on its core competencies and distinctive resources but also on its capability to match its resources with other players' resources, similar to the focus of this thesis, e.g. to combine customer and employee roles in role constellations. The next section will focus on employee and customer roles and the formation of role constellations.

2.5 Role constellation

The adoption of S-D logic entails fundamental changes in activities and interactions, leading to the need for new knowledge and skills. Hence, the roles of the employees and customers will be affected. In an S-D logic context, the employees become the co-creators of value by integrating resources with customers. In other words, both employees and customers are described as resource integrators acting in networks embedded in service systems. In these service systems, resource integration takes place through resource configuration which includes people, information, and technology. The service systems are in turn connected to other service systems by means of value propositions (Vargo et al., 2008:145). The service system theory is applicable to e-government: people are operant resources and the technology refers to ways of working; how to operate on operant resources. However, exactly how this is supposed to work has not been well articulated in previous research.

This thesis highlights the role of the customer and the employee; how they jointly co-create value. The concept of 'role' has a long tradition in social science research. It was first articulated in Mead's (1934) work. Herrmann et al.

(2004) discuss two perspectives on the concept of role. The first one is Mead's perspective; the symbolic interaction perspective, which assumes that society is composed of interactions that develop role structures. According to the second perspective, the functionalistic perspective, society determines roles which are defined by a set of normative expectations and sanctions. Common to both perspectives is the will to explain the relationship between the individual and society, or between the person and the system. This thesis agrees with the first perspective, symbolic interaction, when emphasizing that roles are formed on the subjective will of the actors. For instance, which role an actor enacts is dependent on motivation. In line with the symbolic interaction perspective, this thesis also assumes that interactions develop role structures. Hence, the role is formed by means of interactions between a customer and an employee. When comparing these two perspectives to Mullins' (2007) discussion on the roles that are influenced by situational and personal factors, it is possible to imply that the symbolic interaction perspective is represented, by Mullins, using personal factors whereas the functionalistic perspective is connected to situational factors. As stated in the introductory chapter, situational factors include for example the requirements of the task, while personal factors include for example motivation. Thus, it was stated in the introduction that a role is defined by knowledge, skills, and motivation, and the role explains how customers and employees co-create value by means of resource integration.

To better explain the concept of roles in a co-creation situation, I lean towards Herrmann et al. (2004) and their four characteristics of a role; i.e. position, function/task, behaviour-expectation, and social interaction. First, position refers to the fact that a role always has a position. The position indicates where in the service system a role is located. It can, for example, be located within the hierarchy of an organization. The employees at the PES may, for example, seem to have a higher position than the customers. Since the employees hold sway over a customer's unemployment compensation, this puts them in a position of power vis-à-vis that customer. Second, function/tasks in the form of documented and explicit expectations, rights and obligations which are decided by the social system. The employees at the PES have been given, for example, descriptions of their duties, i.e. what they are supposed to do. The same goes for the customers who also have rights, obligations, and expectations that they need to fulfill. Third, behavior-expectations are informal notions as well as agreements about how to behave - common sense, in other words. Fourth, social interaction refers to the fact that it is possible to form a role on the basis of social skills. This forming, however, is dependent on the interaction with the other actor. Since the position and function/tasks in my empirical material are viewed as being the same for all customer roles, and also that all employee roles have the same position and function/tasks, it is the behavior-expectations and the social interaction characteristics of a role that will be focused on in this thesis. Hence, how a customer or employee is expected to behave will depend on how they interact.

Motivation can also have an impact on the role, and on how the role is understood and performed (Mullins, 2007). Rowley (1996) claims that the employee's motivation is crucial when determining the quality of the interaction with the customer. It is also likely that this cuts both ways; e.g. that the customer's motivation is important for the outcome of the interaction. According to Schein (1980), people are complex and their needs and motivations vary according to the different circumstances they face, e.g. life experience, expectations, and age. Schein (1980) also claims that it is hard to motivate someone, in line with Rabey (2001), who argues that you cannot motivate someone if he/she does not want to be motivated.

For people to enact new roles, they must acquire and use new skills and adopt the social norms and rules governing how they should conduct themselves (Van Maanen and Schein, 1979). Enacting a role means that someone's normal identity is put aside (Giddens, 1994). According to Edvardsson et al. (2010), the role of the provider (the employee) is to support the customer in co-creating value-in-context.

The term 'organizational socialization' refers to the process by which the members of an organization acquire the skills and knowledge leading to the creation of a certain professional identity (Hall, 1987; Ibarra, 1999; Van Maanen, 1975; Van Maanen and Schein, 1979). The processes of organizational socialization are said to provide employees with a so-called "professional identity", which has a connection with the role concept since it is defined as a "relatively stable and enduring constellation of attributes, beliefs, values, motives, and experience in terms of which people define themselves in a professional role" (Ibarra, 1999, pp 764–5)

Akaka and Chandler (2011:248) argue that social roles are 'explicit resources that actors integrate through their attempts to co-create value'. They mean that actors' social roles provide developments within the value networks. This occurs because actors recombine social roles and find themselves in new social positions that significantly alter and recreate the dynamics of value networks (Akaka and Chandler, 2011). This implies that the roles are constantly changing and that a person can enact several roles on the basis of the situation. For example, take an employee at the PES who meets a customer versus the same employee who collects his/her children from preschool. Obviously, this employee plays two completely different roles in these two situations. Employees may be required to enact a selection of roles (Katz and Kahn, 1966: Kerr, 1978). Therefore, it is most likely that the same employee has a number of roles ready for enactment depending on which customer he/she meets, and vice versa. What roles these might be is the focus of this thesis, and it is important to elucidate in order to avoid role ambiguity. Role ambiguity occurs when it is not clear what to expect from a role, e.g. the employee and the customer have different opinions about the role. Role clarity, on the other hand, occurs when everyone has a clear understanding of the roles. Meuter et al. (2005) claim that a customer's role clarity, motivation, and ability are essential factors for effective co-creation If a person takes on more than one role, a role conflict can occur (Payne, 2002).

This thesis also acknowledges how expectations have an impact on roles. Customers often have expectations concerning the behavior of an employee at, for instance, the PES, even though they may never have visited one before. The employee, on the other hand, also has expectations concerning how customers usually behave. As long as the customer's and the employee's expectations complement each other, their value co-creation will continue without friction (Skarman, 2011). In this thesis, this kind of smooth value co-creation is present when the roles adapt to each other and form a role constellation.

A role constellation is a relatively stable combination of customer and employee roles. It emerges as an affect of mutual adaptability, meaning that customers and employees adapt to the needs, strengths, weaknesses, etc. of each other when interacting. Thus, other role constellations than those represented in practice might be theoretically conceivable but these are unlikely to appear due to role adaptability. In other words, a role constellation concerns the adaptable tasks and knowledge and skills that bring customers and employees together in relationships, as well as the social constraints and opportunities associated within these. When roles adapt to each other, the customer's role and the employee's role should ideally complement each other in a specific situation, due to complementing knowledge, skills and motivation as well as complementing expectations on each other's roles.

Research into role constellations has mostly involved role constellation surrounding leadership (Helmish and Brown, 1972; Mausner, 1966; Edström, 1986).

2.6 Summarizing the theoretical framing and positioning

To fulfill the aim of this thesis, hence, *to describe and explain how value is co-created by addressing the customer-employee role constellations during direct interaction*, I have presented some relevant theoretical points of departure in this chapter. The theoretical starting point was service research. Within service research, I found S-D logic to have a focus on employees and customers that matches the aim of this thesis well. Hence, the employees and customers are viewed as operant resources since they possess knowledge and skills, and are thus in a position to integrate resources (operate on other resources). Through the ten foundational premises, it became clear that most of the focus is on value co-creation and resource integration, which suited the aim of this thesis.

The resource integration studied in this thesis is one that takes place during co-creation within the customer-employee dyad. Previous research does not provide much empirically-based knowledge of how this resource integration and value co-creation actually occurs. When doing my empirical research, I realized that value seemed to be co-created in different ways for different customers/employees. This is why the role concept was introduced into the thesis. I have used the role concept to show that the roles are enacted and not assigned, and to show optimal role constellations in order to make a contribution to research into value co-creation within service research.

3 EMPIRICAL FOUNDATION

This chapter is devoted to outlining the empirical foundation on which this thesis rests. It is divided into three sections. The chapter will start with an overview of e-government research, followed by a section that describes links between e-government and S-D logic. Finally, the two empirical contexts, i.e. Sweden's Public Employment Service and Customs Service, will be presented.

3.1 The focus of e-government in today's research

As mentioned in the introduction, e-government is about using the tools and systems made possible by ICTs to provide citizens and businesses with better public services. Effective e-government also involves rethinking organizations and processes, and changing behaviour so that public services are delivered more efficiently to the people who need to use them (European Commission, 2011). In this thesis, e-government is seen as a fruitful context in which to study the co-creation process between the customer and the employee. It is the new technology, together with the shift to a service-oriented economy (Dewettink and van Ameijde, 2011), that has made e-government possible, hence creating an arena for co-creation which has redefined the roles of the customer and the employee.

In the introduction to this thesis, e-government was explained as consisting of both e-services and more traditional face-to-face services, due to the impossibility of choosing its customers in this context. Everyone has to be given the right to use government services; therefore, the need still exists for face-to-face services. Table 3 originates from the first appended paper "E-government and service orientation: gaps between theory and practice" (Åkesson et al., 2008). It has, however, been expanded with newer research and aims to show the research focus of e-government from a service perspective, and to show that previous research of relevance to co-creation is limited. Using this table, I want to illustrate that research is lacking into how customers and employees integrate resources and co-create value. The databases Business Source Premier, Emerald, and ISI Web of Science were searched to identify research relating to e-government from a service perspective. On the basis of the content of the research found in the database search, the research was categorized into six categories. Hence, from Table 3, we learn that e-government is a research field focusing on efficiency, integration, change management, security, customer focus, and strategy.

Table 3: Description of the research focus in e-government research

MAIN FOCUS	FOCAL POINTS	REFERENCES
Efficiency	Efficiency focus and providing citizens with value added services	**Choudrie et al (2005), Ebrahim and Irani (2005), USA E-Commerce Policy (2000), Rotchanakitumnuai (2008)**
Efficiency	Will result in a reduction of staff	**Bovens and Zouridis (2002), Milward and Snyder (1996)**
Efficiency	No reduction in face-to-face interaction	**Deakins and Dillon (2002)**
Efficiency	Efficiency focus due to integration	**Ebrahim and Irani (2005), Landsbergen and Wolken (2001), Reschenthaler and Thompson (1996), Fountain (2001)**
Efficiency	Cost-efficiency focus	**Deakins and Dillon (2002)**
Integration	Governments have to deliver information across agencies	**Ho (2002), Landsbergen and Wolken (2001)**
Integration	Horizontal and vertical integration	**Daniel and Ward (2006), Ebrahim and Irani (2005), Fagan (2006) , Bellamy and Taylor (2003), Cheng-Yi Wu (2007)**
Integration	Integration in order to provide value added services	**E-Commerce Developments (2003), Choudrie et al. (2005)**
Integration	Presents an integrated portal	**Daniel and Ward (2006)**
Integration	It is difficult to get people and organizations to share information.	**Choudrie et al. (2005), Landsbergen and Wolken (2006)**
Integration	Stresses the need for improved	**Schedler and Scharf**

	interaction across traditional bureaucratic lines	**(2002)**
Security	E-government services have to be secure and trustworthy	**Torres et al. (2005), Heeks (2006)**
Security	The service system must include tools for increasing and promoting security	**Deakins and Dillon (2002)**
Strategy	A comprehensive strategic plan is needed	**Ke and Wei (2004), Moon and Norris (2005), Heeks (2006), Cerrano-Cinca (2009)**
Strategy	Finds the need for strong leadership important	**Ke and Wei (2004) Burn and Robins (2005), Heeks (2006)**
Strategy	Standardization of public services does not exist	**Ho (2002)**
Strategy	ICTs are not making drastic changes to the core structures of government	**Criado and Ramilo (2003)**
Change management	The major investment is not in technology but in change management	**Daniel and Ward (2006), Giritli Nygren (2010), Al Busaidy (2009)**
Change management	Organizational change is needed to become more service-oriented	**Milward and Snyder (1996)**
Change management	Changes in the traditional service encounter, reduction in face-to-face interaction	**Ho (2002), Milward and Snyder (1996), Schelin (2003)**
Change management	Insufficient staffing is a major obstacle to change	**Ho (2002), Schedler and Scharf (2002), Thompson et al. (2005), Moon (2002), Heeks (2006)**
Change management	The organizational culture is seen as a barrier	**Choudrie et al. (2005), Daniel and Ward (2006), McIvor et al. (2002), Torres et al. (2005),**
Change management	Notices a reluctance to change	**Choudrie et al (2005), Schedler and Scharf (2002), Verton (2000)**
Change management	An organization’s vision for change must be embraced on all levels of the organisation	**Burn and Robins (2003)**
Customer focus	The benefits should be clearly	**Choudrie et al (2005),**

	emphasized to citizens	**Ekelin (2003)**
Customer focus	Increased level of service orientation	**Ho (2002)**
Customer focus	Based on a constant orientation toward the customers	**Schedler and Scharf (2002), Schelin (2003), Axelsson et al. (2010), King (2007), Schedler and Summermatter (2007), Anthopoulos et al. (2007)**
Customer focus	An increase in the digital divide	**Deakins and Dillon (2002), Choudrie et al. (2005), Heeks (2006)**

Research into efficiency, integration, security, and strategy has focused on technology-based solutions (Åkesson and Edvardsson, 2008). The change management and customer-focused parts of e-government research have been focusing on, for example, the knowledge possessed by customers, thus, sharing the view on knowledge using the lens of G-D logic. Instead of focusing on knowledge and skills as resources linked to customers and employees during the process of value co-creation. There is thus a need for research that adopts a clear focus on employees' and customers' resource integration and value co-creation. This is because viewing e-government as a service redefines the roles of the customers and employees; a focus that previous e-government research seems not to be aware of.

The limited service perspectives to be found in e-government research are often connected with a focus on employees and customers. Rotchanakitumnuai (2008) focuses on service quality in terms of website design quality, and on service design in terms of service processes, ease of use, incentives for use, and customized service design. Al Busaidy (2009) took an employee perspective, finding that the employees have an indirect impact on citizens' confidence when using e-government services. Giritli Nygren (2010) found two roles when focusing on employees from the perspective of labour. She found two ideal types of employees: "monotonized administrators" and "personalized bureaucrats". She describes the way in which technology relates to how work is organized from an employee perspective. The main reasons for these two types are that they have different views of technology and different opinions as regards what e-government really is.

Other researchers have emphasized the need to understand the customer, e.g. their needs and interests (Schedler and Summermatter, 2007; King, 2007; Anthopoulos et al., 2007). Ekelin (2003) expresses a G-D logic inspired view of customer integration in e-government. She argues that customer roles should be seen as active creators or feedback providers. Moreover, Ekelin (2003), stresses for the customers to become information contributors but not co-designers. This is in line with G-D logic, where the customer is seen as a receiver of value rather than a co-creator.

In e-government research, there is a willingness to be more service-oriented, but at the same time there seems to be a willingness to cut costs (see, for instance, Deakins and Dillon, 2002). In order to be more service-oriented, it is important not to assign someone a role where a sufficient level of knowledge and skills for handling that role is lacking. Perhaps, when it comes to a technology-based service in particular, customers and employees have widely differing experiences. Hence, their knowledge and skills as users of this service will vary (Prahalad and Ramaswamy, 2000). Therefore, knowledge of the various roles the customers and employees can enact during the process of value co-creation has the possibility of making a difference in this context. In e-government research related to change management and customer focus in particular, knowledge of the roles would contribute to an understanding of the value co-creation process.

3.2 E-government and S-D logic

Compared to a bureaucracy-centered government, characterized by hands-on laws and providing citizens with services, e-government offers greater possibilities of co-creating the service and jointly contributing to the resource integration process. E-government will now be related to a service perspective by explaining the connections with the foundational premises forming the foundations of S-D logic. Since Vargo (2011) claims that foundational premises 1, 6, 9, and 10 are core, and due to their focus on resource integration and value co-creation, these four foundational premises will be discussed further in relation to e-government.

Foundational premise 1 claims that *service is the fundamental basis of exchange* (Vargo and Lusch, 2007). This means that everything is service and that the application of knowledge and skills, service, is the basis for all exchange (Vargo, 2011). Therefore customers' and employees' knowledge, skills, and willingness to use the resources possessed by the PES and motivation to become co-creators are important. For instance, using the website to find a suitable vacancy makes the customer a co-creator of the service offered by the PES. This is an important aspect that allows e-government to function as it is supposed to. The customers have to be willing and able to do what they are supposed to do in order for the service to result in value in the customer's context.

E-government can be seen as a movement away from G-D logic towards S-D logic. In the traditional goods-centred perspective, the customer and the producer are separated. Prior to e-government, government organizations worked very much in accordance with the goods-centred perspective. The citizens were viewed as a target, someone to assist during a face-to-face interaction (Lusch et al., 2008). According to the e-government reform, the citizens are instead looked upon as co-producers, or even as sole-producers (Åkesson and Edvardsson, 2008). In foundational premise 6, we can see this connection: *the customer is always a co-creator*. Additionally, the face-to-face interactions that were typical of the traditional way of producing services have changed as e-services are independent of time and place, while services based on encounters between customer and employee are dependent on both time and place. No longer are there simply face-to-face interactions, but also interactions with websites and ICT-enabled processes. From the customers' perspective, it is possible to directly access the required government service without negotiating a government hierarchy; from the providers' perspective, costs can be cut by reducing the frequency of face-to-face service interactions. Various aspects of these developments have been explored by, among others, Ho (2002), Schelin (2003), and Milward and Snyder (1996), and relate to FP9: *all economic actors are resource integrators*.

E-government is an innovative way for government organizations to co-create value with their customers and, according to FP10: *value is always uniquely and phenomenologically determined by the beneficiary*. That is, how a potential customer experiences value can, and often does, vary from customer to customer (Kristensson, 2009).

3.3 Empirical contexts

Two of Sweden's best-known government organizations were selected to provide this thesis with empirical contexts. Theoretical sampling was used to select the cases that would be best suited to our theoretical position, e-government and service research. Since our interest was not in any specific organization, but on the service of e-government, two different contexts were studied. First of all, Sweden's Customs Service and Public Employment Service were chosen due to their high level of e-government adoption; seen from a European perspective, they are forerunners. Sweden's Customs Service has received several awards for its work on e-government solutions. It used to be a traditional government agency but has now changed into a modern service organisation, without consuming huge government subsidies (Edvardsson and Enquist, 2006). Despite e-government services, there are always face-to-face meetings between employees and customers at the PES. Both customers and employees are important actors at these two organizations and e-government has brought changes to customers' and employees' ways of co-creating the service. Hence, it is fruitful to study these organizations since the focus of this thesis is to analyze the roles of customers and employees during value co-creation. Due to new technology being used, the roles of customers and employees are being redefined. Next, a brief description of each empirical context is presented.

3.3.1 Sweden's Public Employment Service (PES)

About 10,000 employees work at the PES. The organization has two groups of customers; job seekers and employers looking to hire staff. The organization has an important role to play in creating a smoothly functioning labour market. Its task is to do the bidding of parliament and the government. The most important task is to make sure the number of job seekers corresponds to the number of jobs available; a brief that is not at all easy and very dependent on the business cycle. To succeed with this tough brief, the organization offers nine homogenous self-services; seven for job seekers and two for employers. The homogenous services are supposed to be offered throughout the country. Services are offered via three channels: a call centre, a website, and local employment offices (http://www.arbetsformedlingen.se/Globalmeny/Other-languages/Languages/English-engelska.html). The main target group consists of private individuals; companies are also present but constitute a smaller group. The website came into use in 1996, during which year the organization started its implementation of e-government.

3.3.2 Sweden's Customs Service (CS)

Sweden's Customs Service does spot-checks even though it nowadays also does a lot of preventative work. Preventative work includes informing people about the rules that are applicable when they are engaged in trade with countries outside the EU, while the spot-checks part consists of making sure that these rules are observed. Tasks of the CS are connected with trade and the flow of commodities across borders. The target group of Sweden's Customs Service is companies, since it is mostly companies that import or export goods across Sweden's borders. CS tasks consist of collecting customs duty, taxes, and other charges levied on commodities purchased outside of the EU. Another task is gathering all the statistical particulars needed to draw up foreign trade statistics. The organization also combats the smuggling of narcotics, arms, alcohol, tobacco products, and economic crime. Due to the fact that Sweden is a member of the EU, the CS is involved in a European customs union. This means co-operating both with other member states and to an extensive degree internationally. The member states of the EU have shared customs legislations and tariffs
(http://www.tullverket.se/en/startpage.4.4ab1598c11632f3ba9280002814.html).

Sweden's Customs Service began its e-government implementation at about the same time that the PES did. In 1996, they began 'talking' about focusing on the customer, and on efficiency. This was an early step towards the implementation of e-government. The first website was set up in 1996 and consisted mostly of static information. This website was developed with the intention of offering the same services as one would get when visiting a physical customs office. Sweden's Customs Service aims to offer a 100 percent customs service 24/7. This goal is set to be achieved by 2012. Since the EU is a customs union, the CS is more closely connected with EU legislation than the PES is.

3.3.3 Summary of disparities between the two studied contexts

Although they have many similarities, the major differences between the two empirical contexts can be summarized as follows:

- *Differences in services:* (i) different target groups; (ii) differences in international and national responsibilities (with the CS having a greater degree of involvement in international activities and the European Union); and (iii) differences in the degree of control over activities (with the CS having a greater degree of direct control over its activities than the PES).
- *Differences regarding the introduction of e-government:* (i) differences in the degree of development (with the CS's implementation being more developed); (ii) differences in size of organisation (with the PES being a larger organisation with more employees to train); and (iii) media coverage (with the PES receiving greater media scrutiny).

In spite of these differences between the two empirical contexts, it is not the organizations but their e-government services that were studied. Hence, the focus was not on the actual organizations; thus, it is believed that the roles of the customers and the employees, during the value co-creation process, are the same despite their disparities.

4. RESEARCH METHODOLOGY

This chapter is devoted to explaining how the research has been conducted. It is divided into three sections. First, a discussion of the methodological considerations will be presented. Second, the choices I have made, and why I chose the method I did in each article, will be discussed in detail. Reflections on the research process constitute the content of the final section.

4.1 Methodological considerations

When writing this thesis, I worked through a hermeneutic process of interpretation defined as "the fundamental principle of interpretive field research" (Klein & Meyer, 1999). In a hermeneutic approach, the human being is the main instrument. During the interviews, I acted as an observer and was close to the object being studied, i.e. the interviewee. The traditional subject-object separation, which is typical of the positivistic perspective, was replaced with a close and authentic relationship between the respondents and myself as the interviewer. This is not about keeping a distance from the object; instead, one needs to be involved in order to understand the respondents. As pointed out by Alvesson and Sköldberg (2008), hermeneutic means interpretive and hermeneutic is distinguished by its view of the objective of the study, of the kinds of questions asked, and the kind of knowledge it seeks to establish. The objective of the study is unique human acts and phenomena observed in their natural context. The question concerns meanings and intentions. The knowledge one seeks concerns how meanings and intentions of unique humans and phenomena observed in their natural context can be understood (Starrin and Svensson, 1994). In the present thesis, this concerns capturing and understanding how unique individuals express their roles and their work situation when co-creating value.

The hermeneutic approach in this thesis is not a pure form of hermeneutics; rather, a process is taking place during which equivalents to hermeneutics can be found. To be able to interpret the empirical material using a hermeneutic approach, continuous interaction between the parts and the whole needs to take place (Alvesson and Sköldberg, 2008). This is due to the fact that an individual phenomenon can only be understood through its context. The hermeneutic research process is often resembled by a spiral, the interaction between the parts and the whole. The metaphor indicates that the process is open both upwards and downwards, meaning that the research does not start with a point zero (Alvesson and Sköldberg, 2008). This discussion is similar to the creative process of writing this thesis. Even at the outset, I was aware of the problem and, in a way, I found myself in a process of trying to understand the empirical phenomenon. This understanding (collected during the literature review, Paper 1) worked as an asset when interpreting the first round of interviews. This pre-understanding has increased throughout the working process, as a result of reading more literature and doing more interviews.

An example of a criticism directed at hermeneutics is that human experiences and emotions are not inter-subjectively testable. On the other hand, the interpretation can be deeper and more extensive than would have been the case using quantitative research, which certainly would have resulted in a different philosophical viewpoint (Starrin and Svensson, 1994).

The present thesis is based on a qualitative method due to the wish to acquire a deeper knowledge of the aim; *to describe and explain how value is co-created by addressing the customer-employee role constellations during direct interaction,* than would have been the case using a quantitative method (Silverman, 2001). The goal is to understand and analyze 'the wholeness', something which can be compared to the hermeneutic approach. While working with a qualitative method, it is often practical to make continuous interpretations. This aspect differs from a quantitative approach during which one would prefer to wait before working on the data until all the empirical material had been gathered, e.g. when conducting a survey. According to Patel and Davidson (1998), the benefit of making continuous interpretations is that, right after the interview, one might get toughts regarding how to proceed. This happened when working on this thesis. After each interview, I wrote down notes and ideas and was inspired to continue.

The empirical data (the interviews) in this thesis is implemented as case studies. Case study research can be used during either a qualitative or a quantitative approach (Yin, 1994). The philosophical foundation of the case study is, however, qualitative and a qualitative case study concentrates on insight, disclosure, and interpretation of the phenomenon (Starrin and Svensson, 1994). This is closely related to the hermeneutic viewpoint of this study. Hermeneutics is almost exclusively connected with qualitative methodology. Yin (1989:23) defines a case study thus:

> *It investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used.*

This definition means that a case study examines a phenomenon in its realistic environment or in its context where there are no given boundaries between phenomenon and context. In my case, this means that the employee interviews were conducted at each respondent's workplace, while the customer interviews were conducted at the PES.

4.2 Methods applied to the appended articles

The first appended paper is the only conceptual paper in this thesis. The rest of the papers are empirical ones. In total, 30 interviews were conducted with customers and employees. Between 2006 and 2007, 14 interviews were conducted with employees at the PES and the CS. In May 2009, an additional eight interviews were conducted, this time at the PES,. Finally, in August 2010, 8 customer interviews were conducted at the PES. Please note that some of the interviews have been used as an empirical base in more than one paper. Table 4 summarizes the various methods applied to the appended papers.

Table 4: Various methods applied to the appended papers

	Paper 1	Paper 2	Paper 3	Paper 4	Paper 5
Type of paper	Conceptual	Empirical	Empirical	Empirical	Empirical
Data collection	Literature review	Interviews	Interviews	Interviews	Interviews
Research subject	Service orientation in e-government research	Employees of the PES and the CS	Employees of the PES	Customers and employees of the PES	Customers of the PES and employees of the PES and the CS
Empirical base	27 articles, 3 research monographs, one edited volume.	14 interviews	10 interviews	8 customer interviews and 10 employee interviews	8 customer interviews and 22 employee interviews

Starting with Paper 1, what follows will give a more detailed presentation of the research methods and research process used in the appended papers.

4.2.1 Paper 1: Literature review

Paper 1, E-government and service orientation: gaps between theory and practice (Åkesson et al., 2008), is based on a literature review. In the literature review, the research interest was first identified and then articles closely relating to our primary interest were selected. A systematic search was carried in the databases Business Source Elite, Emerald, and ISI Web of Science out in order to identify literature relating to e-government and service orientation. These particular databases were searched since they contain material from the management and public administration disciplines where research into service orientation should be located. I am aware of the limitations of choosing these particular databases. However, since the focus of the present thesis is not ICT, we chose to disregard typical databases containing this type of research. The keyword 'e-government*' was used.

The articles were briefly reviewed in order to find those most relevant to the objective of the first paper. The articles that were clearly connected with information system research were dismissed, as were articles focusing on efficiency. Empirical articles published before 2000 were also disregarded since e-government was at an early stage then. This selection resulted in 70 articles, which were read and analyzed. Of these 70 articles, 20 were especially interesting and were thus carefully read and analyzed by the third author. Table 5 shows the outcome of this selection.

Table 5: Numbers of articles during selection process

Keyword	**Business Source Elite**			**Emerald**			**ISI**		
	No. of hits	1st selection	Final selection	No. of hits	1st selection	Final selection	No. of hits	1st selection	Final selection
e-government*	235	23	**13**	230	31	**10**	179	16	**5**

Please note that the total number of articles was not 28 but 20, since some articles showed up in more than one database. The literature search continued with a scan of the references used by the 20 selected articles. This resulted in an additional 7 articles. Hence, 27 articles were carefully reviewed and analyzed.

4.2.2 Paper 2: Interviews

Article 2, Effect of e-Government on service design as perceived by employees (Åkesson and Edvardsson, 2008), is an empirical article based on semi-structured interviews (Glaser and Strauss, 1967; Miles and Huberman, 1994). The empirical study was conducted at two of Sweden's best-known government organizations; Sweden's PES and CS. The approach is based on an understanding of how the service design has changed and it is clearly inductive. The organizational members consisted of both frontline employees and middle management due to expectations of finding variances in the two groups. Frontline employees are the ones with the most extensive contact patterns with their customers, usually being the first employees a customer turns to. We had one requirement regarding the frontline employees; i.e. that they had to have been working at the organization for at least ten years. This was necessary in order for us to capture the changes that had occurred as a result of the adoption of e-government.

Prior e-government research has acknowledged the need for strong leadership as an important factor in e-government implementations (Ke and Wei, 2004; Burn and Robins, 2005). Thus, the initial interviews were conducted with middle management at the PES, both on the central and local levels. Altogether, five members of the middle management team were interviewed. Lincoln and Guba's (1985) 'purposeful sampling' was used when selecting informants. Hence, the interviewees were not randomly selected. Rather, a convenient sample, the snowball technique, was used by asking each respondent for further directions as to who could best be suited to participating in an interview. We believed that, since management knows the organisation, it would best be suited to choosing the respondents. Consequently, we were given a list of five frontline employees, all of whom were interviewed. The respondents at the CS consisted of two members of the middle management team; both are highly involved in the development of e-government services and were chosen due to their knowledge of the studied area. The middle management respondent guided us to two frontline employees, who were both interviewed. In all, seven members of each employee group were interviewed, totalling 14 interviews. The interviews were conducted at each respondent's workplace.

Since it is hard to know how much knowledge each interviewee will bring along, there was no limitation to how many interviews would be conducted. Sometimes, a few interviewees would produce enough material for the interpretation to provide the new knowledge wanted. This means that empirical saturation is being achieved. There was, however, some restraint as regards which kind of employee to interview; I wanted to interview both managers and employees. A certain level of anonymity was promised when conducting the interviews; thus, no names will be mentioned. In respect of the hermeneutic approach, I did not decide beforehand the number of questions and how long the interviews would be. It is essential to go on until enough information has emerged; this can vary from time to time and from person to person (Starrin and Svensson, 1994). It is thus empirical saturation that has guided the depth and the quantity of the interview material.

The approach to conducting the personal interviews was influenced by emotionalism. Emotionalism is closely related to hermeneutics in the sense that the concern is eliciting authentic accounts of subjective experience, not obtaining objective facts (Silverman, 2001). The interviews were semi-structured, with open-ended questions such as; "I would like you to begin by describing your work for me. What are your main tasks? Can you describe an ordinary day at work? What do you do?" The full interview guide can be found in the appendix to the appended Paper 2. Emotionalists prefer open-ended interviews (Silverman, 2001). According to Denzin (in Silverman, 2001), there are three reasons for this:

1. The respondents are allowed to use their unique ways of defining the world.
2. There are no fixed sequences of questions suitable for all respondents.
3. The respondents are allowed to raise important issues that are not contained in the interview guide.

The interviews were carried out at the interviewees' respective workplaces. All respondents were interviewed using the same semi-structured interview guide, although this was slightly refined following some of the interviews. Due to the wish to conduct the most reliable interpretation possible of the interviews, these were recorded; naturally, with the permission of the interviewee. The interviews lasted between 30 and 70 minutes and were conducted during the period October 2006 to January 2007.

Data analysis. Analysis of the interviews was influenced by constant comparison techniques (Strauss and Corbin, 1998). Data was analyzed using open and axial coding (Glaser, 1978). These methods were used because of their systematic way of describing how to handle empirically qualitative data material. The coding derives explanations based on interviews and interpretation. Hence, it is not based on preconceived hypotheses. Compilation of the data started with accurately transcribing the taped interviews. This was necessary in order to conduct open coding. Open coding began with looking for comments made by the respondents that were especially relevant when taking the aim into account. These comments were then summarized into keywords and phrases that developed into concepts, and finally general categories were created. This work procedure resulted in the distinguishing of certain patterns. This pattern finding helped me in my creative way of thinking; however, it can also inhibit one's imagination and, in doing so, contribute towards making other problems invisible. An example of this work process is presented in Table 6.

When interpreting the interviews, I tried to emphasize all the sequences concerning the research proposition. One risk that this entails is choosing a sequence that agrees with one's own expectations. This was avoided by doing a systematic interpretation of every statement. I then returned to the 'entirety', thus the interview the statement had been derived from. I did this because I wanted to find out whether or not the specific occasion, seen in its own context, could increase the chances of meeting the research aim. The circumstances concerning different occasions might, namely, give rise to new ways of interpreting (Helenius, 1990).

Table 6: Examples of the categorization of empirical data

Keyword/Phrase	Concept	Categories
In 1996, we started putting all our vacancies online	Create better service	Efficiency
Possibility of registering as unemployed online	Create better service	Customers as co-creators and sole-producers
The customer workstation is a self-service	Facilitating the work of the National Labour Market Board	Efficiency
Collaboration with the Tax Agency	Create better service	Integration
Safe communication	E-identification	Increased complexity

Categories evolving from open coding were: the service encounter and the service process, customers as co-creators and sole-producers, efficiency, increased complexity, and integration. During the axial coding process, the categories from open coding were tied together to enable us to find relationships between the categories.

4.2.3 Papers 3 and 4: Interviews

Paper 3: *Towards a service-dominant professional identity: an organisational socialisation perspective* (Åkesson and Skålén, 2011) and Paper 4: *Customers' co-creational roles: a study of resource integration in e-service*, were both written using a similar methodological approach, which is why they are presented together. Both papers are empirical and use semi-structured interviews, which is reasonable given the lack of previous research and the explorative nature of the papers (Glaser and Strauss, 1967; Miles and Huberman, 1994). The empirical study was conducted at the PES. Non-profitability samples were used due to the desire to select information-rich cases for in-depth study (Layder, 2005). Moreover, theoretical sampling (Glaser and Strauss (1967) was also used. When using theoretical sampling, collection and analysis of the data occurred simultaneously. The reason for this was to obtain immediate feedback from the data collection, which would then suggest implications for theory generation. In addition to the interviews, supplementary documentary information about the organization was also collected from the website of the PES.

The collection of data from the employees took place at each respondent's workplace. A convenience sample of respondents was obtained using a "snowball technique", in order to ensure that the interviews were conducted with employees who were able to provide pertinent information about the aim of the paper. This meant, for example, that we wanted to interview employees who had been at the organization for at least ten years. Hence, all the employee respondents had been working for at least ten years at the PES. With regard to the customers, eight interviews were conducted in August 2010. The customers were randomly handpicked outside the job centre and asked to join the study upon leaving the building. All interviews were recorded and transcribed verbatim, typically lasting between 30 and 90 minutes.

All the interviews started with a brief introduction of the objectives of the research. Both the customer and the employee interviews were guided by a predetermined interview guide. The questions were administered flexibly rather than in a rigid way. I allowed the respondents to talk freely if they seemed to have a lot to say on a specific issue. The following three questions are examples of those put to the employee respondents:

- Can you explain what you do on an ordinary day at work?
- What changes have there been over the last couple of years (duties, customer meetings, etc.)?
- What characterizes a typical employee at your workplace?

All the questions can be found in the interview guides, which are appended to each article.

Data analysis. Data analysis began with the open coding of the transcribed interviews (Glaser and Strauss, 1967; Strauss and Corbin, 1998; Layder, 2005). When coding an interview, labels (codes) were written in the margin of the transcribed interview. A label was chosen which summarized the meaning or implication of the data. Although, inspired by grounded theory, the process of coding was more similar to that used by Layder (2005) because I agree with Layder that grounded theory represents a waste of good theory since it neglects the role of extant theory. Many of the codes used had already been formulated and derived from prior theory, e.g. 'digital divide' and 'co-creation', although some codes had also been derived *de novo* from the data. As recommended by Layder (2005), the codes were then transformed into 'themes' (and subsequently into 'categories') by means of memo-writing. Memo-writing involves making detailed commentaries on the significance of data and its theoretical implications. These memos consisted of date, code, researchers' notes, and references to any previous theory of relevance. In the notes, problems were posed and connections were suggested between codes and existent theory. The memos were used as an arena for discussing things with me.

Co-creation

"You are supposed to register yourself as a jobseeker online." This quote is an example of co-creation. E-government is about co-creating value together with the customers.

A key assumption of Vargo and Lusch's logic is that resources – operand and operant - do not "have" value per se, rather that value is co-created with customers when resources are used.

Literature:

Vargo, S. L., & Lusch, R. F. (2004a), Evolving to a new dominant logic of marketing, *Journal of Marketing*, *68*(1), 1-17.

Vargo, S. L., & Lusch, R. F. (2004b), The four service marketing myths – remnants of a goods-based, manufacturing model, *Journal of Service Research*, *6*(4), 324-35.

Vargo, S. L., & Lusch, R. F. (2008) Service-dominant logic: continuing the evolution, *Journal of the Academy of Marketing Science* (on line version)

Figure 3: Example of a memo

Figure 3 illustrates a simplification of a memo on the code 'co-creation'. It begins with a quote from an interview, followed by a short comment, and then existent theory on the same matter followed by a literature list in order to know where to find more information about co-creation.

The themes and categories generated by coding were primarily utilised to describe the first objective of the study (in Paper 3, that is the *content* of the new service-dominant professional identity). To achieve the second objective of the study (in Paper 3, that is *how* employees were socialised into such an identity), the themes and categories were reconsidered against the backdrop of the framework of organisational socialisation described above (Van Maanen and Schein, 1979).

Memo-writing and coding had to be done in order to reduce the data and make it more manageable. Otherwise, the volume of data is an issue when doing qualitative interviews.

4.2.4 Paper 5: interviews

Paper 5: *Value co-creation in e-government*, is an empirical article using semi-structured interviews (Glaser and Strauss, 1967; Miles and Huberman, 1994). The paper is based on all the 30 interviews used in the 4 previously appended papers in this thesis. Hence, these have been conducted at both the PES and CS. The data analysing procedure is similar to that used in Papers 3 and 4.

4.3 Reflections on the research process

As pointed out by Scandura and Williams (2000), any research method will have inherent flaws and will limit the conclusions that may be drawn. Therefore, in what follows, the quality of the research in this thesis will be reflected upon. The section is divided into sub-sections on reliability, validity, and generalization.

4.3.1 Reliability

The concepts of reliability and validity are mostly used in quantitative research (Dahmström, 2008) and it can be discussed whether or not they should be used in qualitative studies. Reliability concerns the accuracy of the research (Guvå and Hylander, 2003) and its role is to minimize errors and biases in the study (Yin, 1994). In basic terms, reliability describes the extent to which the same results can be obtained if the study were to be carried out again. Since the interviews used to collect data for the articles in this thesis are in-depth, it was necessary to probe the respondents in order to make them tell all about how they experience their situations. This means that, although it is possible to use the same interview guide, it might be difficult to get the respondents to reveal exactly the same thing once again, which certainly is a reliability factor.

4.3.2 Validity

Validity entails the research measuring what it is supposed to measure (Dahmström, 2008). To maximize the validity, all respondents were given the opportunity to read through the transcribed interview and have their say on the content. This was done to minimize transcription errors. Most of the respondents, but not all, availed themselves of this opportunity, or at least they stated that they had read through the material. Another issue concerning validity is referred to by Dahmström (2008) as *interviewer effect*. This occurs in particular when the interview concerns sensitive issues to which one obviously wants to receive truthful answers. In the present thesis, the interviewer effect (Dahmström, 2008) was minimized by means of assuring the respondents that they would have anonymity. According to Glaser (1978), research findings are valid if they are relevant to the people they affect. This is an important criterion since it emphasizes the practical use of the research. During work on this thesis, this criterion has been taken into consideration and it is the reason why I have tried to explain my results to the respondents after the interviews in order to sort out any misunderstandings.

4.3.3 Generalization

Technically, a case study can never be a probability sample, from which one could generalize into a population. Thus, it is not possible to make any statistical generalizations (Yin, 2003) from the qualitative studies. This was not the intention of this study either. However, it is important to differentiate between statistical and analytical generalization (Gummesson, 2000). If the goal is analytical generalization, this study can be generalized into theory creation, pattern finding, and as regards using earlier theories as a reference with which to compare the empirical results (Yin, 2003). The two empirical contexts in this thesis might not be very different from other types of organizations, see 3.4. Therefore, it is possible to discuss the findings in a wider meaning, and the findings from this study could be used for analytical generalization.

5 DISCUSSION

The aim of this thesis is *to describe and explain how value is co-created by addressing the customer-employee role constellations during direct interaction*. This final chapter is divided into three parts, whereby research contributions come first and are emphasized. The other two are managerial implications and suggestions for future research.

5.1 Contributions

In order to be able to offer a scholarly and managerial understanding of how employees and customers integrate resources when co-creating value, two issues were outlined in the introduction. The first referred to contributing to service research by expanding the literature of customers' and employees' resource integration and value co-creation by using e-government as the empirical context in which to outline customers' and employees' parts in value co-creation. This is the first contribution of this thesis. It relates to part aims one, two, and five, and will be further discussed next. The second issue, as stated in the introduction, relates to the roles of the customer and the employee *per se* and this is the second contribution. It relates to part aims three and four. The roles will be discussed in the second section of the contributions. Then, role constellations in value co-creation, which is a conceptualization based on the two main contributions, will be outlined and discussed.

5.1.1 Resource integration and value co-creation in e-government

The foundational premises of S-D logic (Vargo, 2011) mainly focus on resource integration and value co-creation. E-government is a fruitful context in which to study resource integration and co-creation. Prior to e-government, the employees were the ones who, more or less, offered work to their customers at PES, at least when times were good economically. This shielded work by the employee is typical of a G-D logic perspective and something that has changed in the e-government context. In the e-government context, the employees' shielded work has, in line with the S-D logic perspective, been exchanged in favour of co-creation. The customer, sometimes together with the employee, gets into a position where he/she can be employed, finally finding a job. Hence, from the S-D logic perspective, the focus is not on the offering but on value co-creation (Peñaloza and Mish, 2011). E-government is also a context that enables resource integration and customers are a major resource to be activated and given an important function. E-government makes it possible to integrate the customer's own resources (e.g. computer and skills) with the resources provided by the organization (e.g. a website). This resource integration means more interactions for customers, thus affecting their role as resource integrators. Hence, the trend towards e-government has gone from a practice that had a lot in common with G-D logic towards one that has a lot in common with S-D logic, where the employee and the customer co-create value. By using e-government as an empirical context, contributions that expand the literature of resource integration and value co-creation have been guided by part aims one, two, and five. These will now be discussed.

The first part aim was to review selected literature on e-government service orientation and to highlight differences between academic theory and empirical findings. The review (Åkesson et al., 2008) showed that the conceptual literature goes far in its prediction regarding the changes that the introduction of e-government might result in. The empirical literature, on the other hand, displays a more restrained attitude concerning the introduction of e-government and the changes that have actually taken place. From our findings, it is evident that the positive predictions regarding what e-government might accomplish, according to the conceptual literature, have not been confirmed by empirical research. Hence, the literature study has emphasized the need for more research into e-government from a service perspective.

The second part aim was to describe and analyze the effects of e-government on service design, as perceived by employees. Five categories were found to relate to the effect on service design (Åkesson and Edvardsson, 2008). These categories are: the service encounter and the service process; customers as co-creators and/or sole producers; efficiency; increased complexity; and integration. It was found that greater customer preparation is needed in order for customers to become co-creators of the service. This is in line with Berry and Lampo (2000); however, in the following section (5.1.2), it will be shown that this is dependent on which role one enacts.

The fifth part aim was to identify and explain how value co-creation can be facilitated in an e-government context. This was done by using a three factor model which illustrated that treating customers as operant resources, horizontal integration, and awareness of the various roles customers and employees can enact, facilitate value co-creation. Using these three factors, the value propositions can be enhanced, which will benefit both the organization and its customers during the process of value co-creation. Since the value is dependent on the resource integration, the analysis in this thesis supports the assertion in S-D logic research (Vargo and Lusch, 2008) that resource integration is key to understanding value co-creation. Moreover, this thesis also suggests that resource integration takes place during the enactment of roles, and furthermore, that various role constellations can be formed. To sort out the role constellations, one has to understand the resource integration of customers and employees and thus one has to engage in the direct interaction between customers and employees. Moreover; the employees' ability to understand the needs of their customers is of great importance, not just in order to give them the service they expect but also in order to take a step closer to understanding the customers' resource integration. Hence, knowing how they integrate resources will provide clues as to how they co-create value. The following example shows a customer's resource integration when contacting the PES for the first time. It shows that, from the customer's perspective, most value creation is closed (Grönroos and Ravald, 2011). Recall from Chapter 2, that it is only in the open part that the employee, through direct interactions, can access the customer's process of value creation. Hence, only a few of the activities during value creation take place in direct interaction with the employee. And it is only during the open part of value creation that the employee can become a co-creator of value together with the customer. How a customer might integrate resources can be illustrate as follows:

1. The customer talks to family and friends and listens to their advice about the PES (closed part).
2. He/she searches for information online (closed part).
3. He/she fills out a form on the PES website (open part).
4. He/she makes an initial visit to the local branch of the PES and has a face-to-face meeting with an employee. During this first face-to-face meeting, much is at stake since it is during this meeting that the employee needs to get to know the customer in order to form an

understanding of how he/she integrates resources in order to co-create value (open part).
5. When the customer leaves the building, he/she calls a friend to discuss the meeting (closed part).
6. Upon coming home, the customer posts a message on Facebook in order to let "everyone" know he/she is looking for a job. Perhaps he/she will be recalled (closed part).

This is just one example of how a customer might integrate resources. The co-creation processes are inherently subjective and must be understood from time to time and place to place (Lusch at al., 2007). Therefore, they can differ. My empirical analysis in Papers 3 and 4, suggests that customers and employees enact various roles during direct interaction. The following section will focus on these roles.

5.1.2 The roles of the customers and the employees

The employee and the customer co-create value during direct interactions by means of resource integration - they can be seen as resource integrators (Lusch and Vargo, 2006). This thesis suggests that the S-D logic perspective of value has redefined the roles of the customer and the employee. These roles are the outcome of part aims 3 and 4. Part aim 3 relates to studying the influence on the employees' professional identities by viewing their activities and interactions in an e-government context. The outcome of this study was the identification of four characteristics of a service-dominant professional identity: (i) interaction; (ii) customer orientation; (iii) co-creation; and (iv) empowerment. These characteristics derive from the appended Paper 3 (Åkesson and Skålén, 2011), and have been translated into the following roles:

- *interactor*
- *customer oriented party*
- *co-creator*
- *empowered party*

These roles will now be explained, starting with the *interactor*.

The *interactor* is an employee who interacts, often face-to-face with the customer. The important knowledge and skills of an *interactor* include interpreting what his/her customers really want. In many instances, this requires the ability to 'read between the lines' in order to figure out what the customers really want.

The *customer oriented party* refers to an employee with knowledge and skills which support his/her willingness to make the customer the centre of attention, and a willingness for the customers to be responsible for their own situations. A *customer oriented* employee wants to make sure that the customer gets out of the meeting what he/she intended to, e.g. that the customer gets the required information.

When enacting the role of *co-creator*, the employee enjoys collaborating with customers to solve any issues that they might have. This means that a distinguished knowledge and skill of a *co-creator* employee role is to be flexible to the need of its customers.

An *empowered party* is well prepared for the many challenges they face, e.g. *the empowered party* are an employee that is empowered to take initiatives. Another important ability for the *empowered party* is to be able to treat the customers differently, as individuals.

Summing up, the role of the employee is to support the customer in co-creating value (Edvardsson et al., 2010). The employee roles are *interactor, customer oriented party, co-creator, and empowered party*. Now the focus shifts to part aim 4, which was to describe the customer's part in the co-creation process in an e-government context. In this matter, I argue for the existence of four customer roles:

- *information integrator*
- *accessibility needer*
- *dialogue keeper*
- *knowledge transferee*

Distinguishing knowledge and skills of an *information integrator* is its ability to look up and connect information which, for other customers, can seem hard to get hold of. They prefer to interact through self-service.

When customers enact the role of *accessibility needers*, they are dependent on being able to access the service provider easily and frequently. An *accessibility needer* co-creates through contact/interaction/communication with the service provider. An *accessibility needer* can also be a customer who often uses web services. This frequent accessibility enables value co-creation. *Accessibility needers* are more passive than *information integrators* and *dialogue keepers*, often due to a lack of knowledge concerning how to integrate resources, rather than an unwillingness.

Customers as *dialogue keepers* co-create value by maintaining a continuous dialogue. Customers choose their own way of maintaining the dialogue. Hence, they use the resources they possess in order to co-create new resources with the organization in order to co-create value. This can, for example, occur when a customer has searched the web for information and wants to confirm this information by calling the call centre. Through this co-creation with the call-centre, new resources are created, in this case new knowledge. This is in line with Al Busaidy (2009) who found that employees have an indirect impact on citizens' confidence in using e-government services.

A *knowledge transferee* needs to have knowledge transferred to him/her in order to co-create; hence, this is a passive resource integrator. In a way, all customer roles are dependent on knowledge being transferred, but the difference with this role is that, if no knowledge is transferred between the employee and the customer, then value co-creation will fail to occur.

It is important to note, however, that a person can enact different roles in different situations (Herrmann et al., 2004). A passive customer can be more active in specific situations. As stated in the introduction, this thesis claims that motivation can be one reason to why the roles might differ. This thesis thus supports the study by Meuter at al. (2005) concerning motivation. Meuter et al. (2005) found that motivation was the dominant consumer readiness variable. Based on my empirical studies, motivation is superior, since lacking motivation negatively affects the desire to integrate one's knowledge and skills. For example, many of the employees I met and interviewed during my empirical studies attested to how the administrative work had increased considerably due to all the documentation that is required. Although, these employees possessed the knowledge and skills to carry this out, they felt unmotivated, which most certainly affected the quality of the documentation. The motivational aspect is not present in S-D logic, where the focus has instead been on knowledge and skills as operant resources. Although a customer lacks the necessary knowledge and skills to enact an active customer role, the level of motivation can be so high it helps him/her to be more active than would have been the case if there was a lack of motivation. Herrmann et al. (2004) refer to this as role-change and emphasize the importance of being aware of it. This is especially important to employees since an employee who is aware of various customer and employee roles is better prepared to engage in the value co-creation process. Being aware of role conflict, when a person enacts more than one role, is also important to employees.

While Meuter at al. (2005) end their discussion by claiming the essentiality of motivation. In the next section, this thesis gives concrete examples of roles and role constellations and shows the importance of roles in action, e.g. that using knowledge and skills which are dependent on motivation, is key to understanding value co-creation within S-D logic.

Hence, the next section will outline and discuss role constellations in value co-creation, by combining the two contributions: 'Resource integration and value co-creation in e-government', and 'The roles of the operant resources'.

5.1.3 Role constellations in value co-creation

The two previously discussed contributions enable an outline of the overall contribution focusing on role constellations in value co-creation, which will be discussed in this section.

Recall from Chapter 2 how value is created in a G-D-logic-informed organization and in an S-D-logic-informed organization. When using the perspective of G-D logic, the customers and employees are passive; they receive something from the organization and the value is seen as created. In an S-D-logic-informed context, the focus shifts to individuals; customers and employees jointly co-create value (Lusch et al., 2008). This distinction between G-D logic and S-D logic represents two different views of value-creation and is nothing new (Lusch et al., 2008, Prahalad and Ramaswamy 2002, 2004). What is new, however, is that once the shift in focus towards value co-creation has occurred, the organization must then develop new capabilities (Ramaswamy and Gouillart, 2010). These capabilities consist of the enactment of roles for the customers and the employees; furthermore, the roles form role constellations. These roles and role constellations are important since they, in turn, will affect resource integration and value co-creation. When adopting the mindset of S-D logic in an organization, the focus on operant resources such as customers and employees is core (Lusch et al., 2008). This means that demands on employees are increasing and an important part of their work is to guide customers in order to integrate resources in more efficient ways. This way of thinking is in line with Mele et al. (2010) who argue that the value co-creating potential of a firm is about its capability to match its resources with other players' resources, and not only dependent on core competencies and distinctive resources.

Figure 4 illustrates the customer and employee roles that clearly complement each other and thus form a role constellation. Note the possibility of other role constellation but the ones illustrated in figure 4 are the strongest combinations. For example, an employee who feels that interaction is his/her most important duty is an interactor and he/she may not work well with customers who are information integrators due to role adaptability. This is due to the information integrator's ability to look up information him-/herself, making this particular customer role less dependent on the help and guidance given by the employee. It is obviously possible for an information integrator to match an interactor, but these are not likely to be combined, for reasons of adaptability (Akaka and Chandler, 2011), with each other. For instance, if an employee notices when meeting a customer that this customer is an information integrator, then the employee should adapt to this situation and, instead of enacting the role of interactor, enact the customer-oriented role.

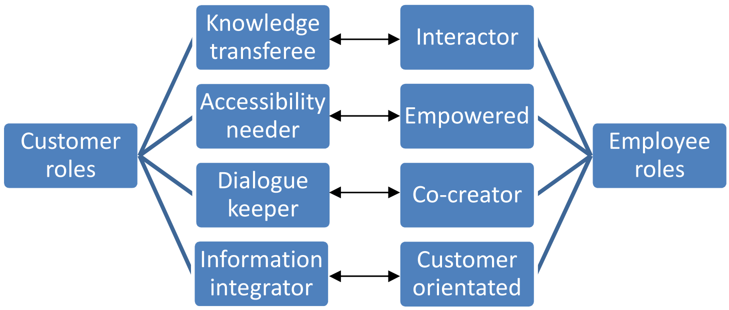

Figure 4: A customer role vs. employee role constellation for value co-creation

Since the value being created is dependent on resource integration, complementary roles will mean that there is a match between resource integration and value co-creation. From Chapter 2, we recall that resource integration consists of the actors' incorporation of resources (Moeller, 2008), it is multidirectional (Vargo, 2008), it occurs with the actors' expectations, needs, and capabilities (Mele, 2009), and integral resources can be obtained from the value networks (Vargo, 2008).

The roles in Figure 4 originate from my empirical material, presented in Papers 3 (Åkesson and Skålén, 2011) and 4; empirical illustrations from these papers will thus be used in order to further emphasize the meaning of the roles. Taking it one step further, it is possible to generalize three characteristics of a customer co-creational role as well as three characteristics of an employee co-creational role, which jointly constitute role constellations in value co-creation. A customer can be *active*, *devoted*, or *passive* while an employee can be *active*, *contact-seeking*, or *passive*. I will now explain how these roles developed. The most distinguished characteristic of a knowledge transferee is passivity; hence, this is a passive role. The same goes for the customer-oriented employee role, which is passive in the sense of wanting the customer to take responsibility. The most distinguished quality of an information integrator and an interactor is being active; hence, these are active roles. The empowered employee is prepared to take on challenges, making him/her unafraid of contacting customers; hence, this role is contact-seeking. The same goes for co-creators. These are flexible and enjoy collaborating with their customers. Therefore, they often tend to seek contact with their customers. Accessibility needers want to be able to gain access to the employee easily and frequently. They are highly motivated and want things to be accomplished, but they often lack knowledge and skills. Hence, these are devoted because although they might lack certain knowledge and skills they seem to be driven by an achievement fulfilled by wanting to co-create value. Dialogue keepers are also devoted and motivated in their resource integration, which can be seen in their willingness to maintain a continuous dialogue. A customer who enacts a devoted role has a good idea of what he/she want but is still dependent on recommendations and advice from an employee. Therefore, in order to co-create value, the interaction with an employee is important for the devoted customer. In the dialogue the devoted customer role know what they want, but not how to access the information which makes them dependent on the employee. The devoted customers are easiest to co-create with since they enjoy direct interactions with an employee.

Figure 5 illustrates value co-creational role constellations. When a customer role and an employee role complement each other, a role constellation is created. Take, for example, a passive customer, whom we can call Sara, and an active employee, whom we can refer to as Lars. Sara's ability to find a job would have been very limited if she had not met Lars. Sara is a typically passive customer using the service of 'finding a job'. Please note that, in other situations, she can enact other roles; however, in this particular situation, she plays a passive role, having limited skills, knowledge, and motivation in job hunting, CV writing, and using a computer. Lars, on the other hand, is an active employee who tries to motivate Sara and senses that she is in need of his knowledge and skills; thus, he collaborates with Sara during their face-to-face interactions. Without this collaboration between the two, made possible by the roles they are enacting, Sara would have achieved little. However, they jointly coordinate their knowledge and skills, playing complementary roles which will give Sara a job in the end. If Lars had also enacted a passive role, then he, as an employee, would have had to adapt to Sara's role. This means that he has to enact an active role in order for value to be co-created. This mutual adjustment is referred to as role adaptability.

Payne et al. (2008) present a conceptual framework for understanding and managing value co-creation. The model in Figure 5 shares some aspects with Payne et al. (2008). Both models consider customers as well as employees to be part of value co-creation. Payne's model looks at cognition, emotion, and behaviour but does not really provide any ideas regarding *how* customers and employees co-create value while the model in Figure 5 focuses on the behaviour of customers and employees and gives concrete examples of how they use knowledge and skills when co-creating value. My model also shows the knowledge and skills that are important for various types of customers and employees; various roles.

The dynamic relationship will now be explained; consequently, how each of the role constellations of operant resources works in order to co-create value. The arrows between motivation and customer roles/employee roles indicate that roles are dependent on the motivation of the actors. The two-way arrows between passive and active, devoted and contact-seeking, and active and passive, indicate complementary roles; a role constellation.

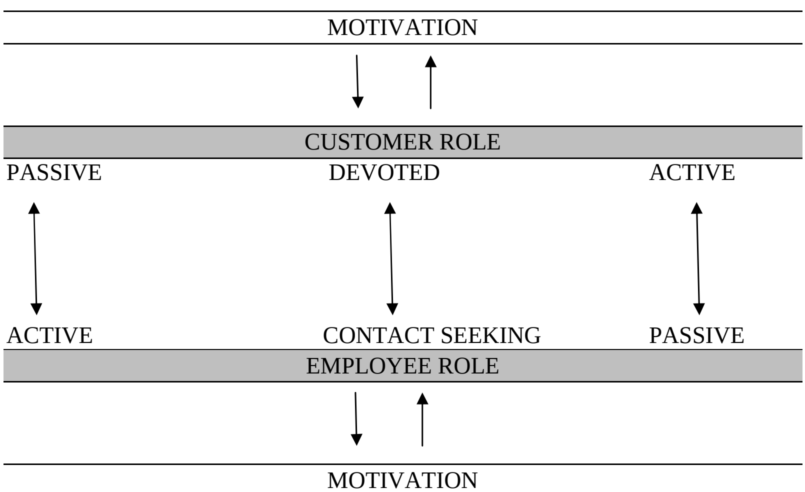

Figure 5: Role constellations in value co-creation

The role descriptions will be based on the four characteristics of roles presented in Herrmann et al. (2004). As described in Chapter 2, all employee roles have the same position and function/task. The same goes for the customer roles; thus, only two of the four characteristics will be used - behaviour-expectation and social interaction. Entailing that how a customer or employee is expected to behave is dependent on how he/she interacts.

Passive customer role vs. active employee role. An active employee role is defined as someone who possesses a lot of knowledge and skills and is motivated to transfer this knowledge and skills to a customer. The principal feature of a passive customer role is its need for guidance and support from the employee. The passive customer role complements the active employee role since the passive customer is dependent on the knowledge and skills being transferred by the active employee. Hence, the range of social interaction for a passive customer role is rather limited and largely dependent on the interaction with the employee. Therefore, the behaviour expected of someone enacting a passive customer role is to be dependent on the employee, due to lack of the knowledge and skills needed to take initiatives. This knowledge is often transferred during face-to-face interaction. The value is co-created during this interaction, making this part more focused on people than on technology. It is thus referred to as people-based.

A passive customer does not complement a passive employee since the employee would put the emphasis on the customer to be responsible for his/her own situation. For a passive employee, customers are expected to take more personal responsibility for the resource integration and value co-creation of the service. Failure to co-create value would thus occur if both the customer and the employee played passive roles. This is not, however, likely to happen due to their adaptability to each other.

Summing up the two roles, the knowledge, skills, and motivation constituting the role of the passive customer are: (1) the need to be guided by the employee; (2) a lack of knowledge and skills, often computer skills, making it difficult to use self-services and making the role dependent on face-to-face service; (3) the possible assumption that the passive customer role lacks motivation, but this role can be just as motivated as a more active one. This motivation can be a path towards enacting another role; i.e. role change (Herrmann, 2004), since it can lead to the customer learning the skills and knowledge needed to enact another, more active role. The active employee role; (1) contains a lot of knowledge and skills regarding the job; (2) is motivated to transfer the knowledge to the customer; (3) likes social interactions, alowing this role to enjoy the people-based part of the job more than the technology-based one. Hence, the active employee role prefers face-to-face interaction.

Devoted customer role vs. contact-seeking employee role. The most prominent behaviour of the contact-seeking employee role is its ability to be flexible and good at encountering unfamiliar situations. Employees enacting this role are also good at treating customers differently, depending on what the situation calls for. A devoted customer role is enacted by someone in need of easy and frequent contact. This contact can be maintained by using various channels, e.g. face-to-face interaction or ICT solutions such as a website. Since motivation is the most important characteristic of this customer role, the person enacting this role is motivated to take initiatives. Part of the value lies, for example, in choosing which contact channel to use. This means that the contact channel can vary, which matches the contact-seeking employee role well, since this type of employee is prepared for spontaneous interaction using any channel.

The devoted customer role is the hardest customer role to predict, putting particular pressure on the employee. The contact-seeking employee role should, however, be the most suitable employee role for this mission due to its flexibility and its ability to treat customers on the basis of the situation. The following quote illustrates a contact-seeking employee role and the wish to be of service: "It's important to be skilful during the meeting. I have to be skilful in my profession; read between the lines, listen, have a look at previous merits, and see if there's a pattern to the previous work history which might happen again, just to find out which pile this person belongs to". It is always the employees who should accommodate the customer, in line with Edvardsson et al. (2011) who state that frontline employees, in particular, are likely to have to change their roles in order to facilitate successful development. Recall the old saying 'the customer is always right'; although, some situations might call for the employee to help the customer to enact a different role than the one first initiated, e.g. a passive customer role with the motivation to learn to enact a more active role.

Summing up the two roles, starting with the devoted one: the expected behaviour of the devoted customer role is; (1) a need for easy and frequent contact; (2) motivated to take initiatives; (3) the ability to use different ways of staying in contact. The contact-seeking employee role, on the other hand, is a (1) flexible role which is (2) motivated to serve the customer.

Active customer role vs. passive employee role. An active customer role is played by someone who carries out much of the work him-/herself; he/she is independent and often uses self-services, making this part of the role constellation technology-based rather than people-based. This quote from my empirical material is typical of an active customer: "I search for all the jobs myself. I don't feel that I need any help with this or with finding suitable vacancies. This information is clearly shown on the website. It's more like - I get irritated when I sometimes get email from the PES with a list of suitable vacancies. You have to understand that I do want a job and I obviously do search for all the jobs available!" The quote also illustrates that an active customer role is more closed in the sense of wanting to change and receive guidance from an employee. Hence, enacting an active customer role means involving a high degree of customer integration but does not result in stronger social interaction, as pointed out by Bowen and Ford (2002). Rather, the active customer co-creates such a large part of the service that the social interaction with the employee is rather limited; it is not necessary due to the high degree of work done by the customer. Therefore, in this situation, the customer does not let the employee into the value creation process, entailing that the employee cannot be viewed as a co-creator of value due to lack of direct interaction (Grönroos, 2011).

A high degree of customer integration exists in the active customer role. Sichtmann et al. (2011) state that, in a situation with a high level of customer integration, the customer needs a greater depth of understanding and learning. This is in line with Bowen and Ford (2002), who state that the more involved the customers are - the more consideration must be given to accommodating them. These arguments do not seem to be applicable to an e-government service, where an active customer role already features the skills and knowledge to co-create the service. This results, instead, in limited accommodation on the part of the employee.

An employee who enacts the passive role makes the customer the centre of attention but simultaneously expects the customer to take on a great responsibility. Compare this with an IKEA customer, who agrees to take on tasks formerly carried out by manufacturers and retailers (Normann and Ramirez, 1993), e.g. assembling his/her furniture. Therefore, the passive employee role combines well with the active customer role, which wants to look up information and have the ability to find information which other customer roles find hard to get hold of. Since the customer is active and takes on a lot of work, the employee enacts a passive role. Hence, there is no scope for the employee to be active. This is why an active customer does not form a role constellation with an active employee.

Summing up the active customer role; (1) it refers to active customers who prefer to look after themselves; (2) it prefers self-service to face-to-face service; (3) it has the knowledge, skills and motivation to handle self-service and to co-create value through this interaction with self-service; (4) it engages in limited direct interaction with an employee.

Summing up the passive customer role; (1) transfer the responsibility to the customer; (2) knowledge and skills are available and there is a willingness to share these if the customer asks for them.

The model in Figure 5 shows that customers and employees enact roles shaped by knowledge, skill, and motivation, which decide how their resources are integrated. The roles signify that one can use one's resources in different ways regardless of whether one has the same knowledge and skills or not. Hence, resources are becoming (Vargo and Lusch 2004; Vargo et al., 2010) and the role decides how the resources are operated on. One contribution made by my model, thus, is to get resources to interact more effectively when they are integrated and operated on. Next, there is a discussion about theoretical contributions.

5.2 Theoretical contributions

Four propositions describing the theoretical implications may be presented on the basis of the model 'role constellations in value co-creation' (see Figure 5). The propositions focus on theoretical contributions to existing S-D logic theory. Although resource integration and value co-creation are analytical concepts, this thesis makes a contribution by showing that they are strongly intertwined in practice. Since resource integration refers to the incorporation and application of a customer's resources into an organization's resources (Moeller, 2008), it makes sense to focus on both customers and employees, in line with Heskett et al. (2004). S-D logic claims that operant resources (e.g. customers and employees, since these have knowledge and skills) are the most important resources (see, for instance, Vargo and Lusch, 2004; 2008), and since it is the operant resources that operate on other resources, there is a need to empirically study how this resource integration occurs. In this thesis, it is claimed that resource integration occurs in the context of roles since a role determines how the knowledge and skills are used (Mullins, 2007). The first theoretical proposition concerns the role concept:

> *Proposition 1: Value co-creation is dependent on resource integration which is shaped through actors' roles in relation to one another.*

The co-creation of value is the centrepiece of S-D logic (Peñaloza and Mish, 2011), thus it is necessary to understand how value is co-created. This thesis makes a contribution by claiming that value co-creation occurs during the enactment of roles. Hence, the role that employees and customers enact has a direct influence on resource integration and an indirect influence on value co-creation. According to Vargo and Lusch (2004; 2008) and Ramaswamy and Gouillart (2010) value is co-created by customers and other actors. The role is connected to the actor since it is an actor who enacts a role in order to co-create value. I would thus claim that the roles are crucial to understanding resource integration and value co-creation.

The role is dependent on how resource integration takes place, and resource integration in turn is dependent on knowledge, skills, and motivation. This is in line with Mullins' (2007) discussion about situational and personal factors influencing the role. Since resource integration may result in value co-creation, the role indirectly influences value co-creation. For example, if a customer expects an employee to play a certain role, and this employee does not live up to expectations, the customer's value co-creation will be affected. Reasons for this might include role ambiguity; i.e. the customer and the employee have different opinions about the role (Payne, 2002). Or perhaps there is a time limit, meaning that the employee has limited time set aside for, for instance, face-to-face meetings. Please note that the roles of the employees are somewhat different from those of the customers since the customer has more freedom of choice. Obviously, both customers and employees have to act according to their situation in life, but the employee roles are professional ones with more rules and regulations than customer roles.

Proposition 2: The operant resources consist of knowledge, skills, and motivation

This thesis makes a contribution by adding motivation to the operant resources. Motivation is seen as something other than knowledge and skills. It is related to the drive to use knowledge and skills and is thus important to and in line with the view that resources are becoming (Pels et al., 2009). Motivation depends on situations and circumstances. "You cannot motivate anyone – you can only create a situation to which individuals will respond because they choose to" (Rabey, 2000). The second theoretical contribution implies that motivation is key to which role an actor will enact, and thus also key to the use of knowledge and skills and thus the understanding of resource integration and value co-creation. Existing S-D logic theory is too narrow in its claim that knowledge and skills are the most important operant resources (see, for instance, Vargo and Lusch, 2004). My data and findings strongly indicate that the involved actors' motivation is key during value co-creation. Thus, employees might have to motivate customers, as in the fictive example of Lars and Sara. Another example of an employee trying to motivate its customers is shown in the following quote: "If we can get the customers to feel that it is fun and pleasant and that they receive something positive from the employment service, on an optional basis so to speak, then I believe these people will be more engaged, interested and more active in their job searching". If actors lack motivation, their specific knowledge and skills become less significant. Reasons for an absence of motivation might include tasks not feeling meaningful or the necessary resources or support not being available; hence, there is a lack of prerequisites to do the job. This, for example, makes it hard to enact an active role. Another scenario could be the lack of rewards for the actors; they might not feel that they are getting anything for their efforts.

It is also possible for employees who enact a certain role to recall a missing skill that would be necessary in order for them to fully enact the role, e.g. the skills needed to handle a complicated computer system. This complicated computer system might influence an employee's motivation, in turn affecting the role the employee is going to enact. A similar example from the customer's perspective is when the customer is trying to use an organization's website but is having difficulty navigating. The customer becomes demotivated and enacts the passive customer role. Hence, this thesis extends the operant resources by adding motivation and asserts that motivation has a direct influence on the use of knowledge and skills and an indirect influence on the role and thus the way motivation affects resource integration and value co-creation.

> *Proposition 3: A customer role and an employee role that adapt to each other are said to complement one another and form a role constellation.*

The dynamics between the customer and the employee, as shown in the role constellations, are lacking in the S-D logic literature. Normann and Ramirez (1993) address the value constellation within which the customer's resources are emphasized. They do mention that the goal of the value constellation is to "create an ever-improving fit between competencies and customers" (Normann and Ramirez, 1993:1), in line with the role constellation suggested in this thesis, whereby the emphasis is on the importance of combining the roles to obtain an optimum fit.

The role constellations presented in this thesis extend the conceptualization of S-D logic by focusing on both customers and employees. Thus, most research has so far concerned customers (Arnould et al., 2006: Lusch et al., 2007). It is important to note that role constellations often vary over time. According to Chandler and Vargo (2011), this can be due to the contexts constantly changing. Each actor brings his/her own unique quality (knowledge and skills) to the context. This affects the other actors in the context as well as the context as a whole (Chandler and Vargo, 2011), in line with Giddens (1979), who claims that actors and their contexts are partially defined by one another. For example, if a new actor enters a context, the knowledge and skills of this actor become available to the other actors in that context. Take, for example, an Internet-based forum where a new member signs in and this new member possesses a lot of interesting facts (knowledge and skills) about the topic of the forum. This knowledge and these skills might solve a lot of issues being discussed by the other members of the forum.

The new knowledge and skills may lead to the enactment of new roles for the members of the forum. In line with Akaka and Chandler (2011), who imply that, when actors recombine social roles, they find themselves in new social positions that alter and re-create the dynamics of value networks. This implies that role adaptability is dynamic, since the situation will never be the same. Hence, the context is constantly changing (Chandler and Vargo, 2011) and resources are therefore becoming (Pels et al., 2009).

Proposition 4: Value propositions have implications for roles and role constellations.

Value propositions (Lusch and Vargo, 2006; Lusch et al, 2007; Vargo and Lusch, 2008) are used to communicate what is to be expected from a service, to both the customers and the employees. Payne et al. (2008) claim that the value proposition exists in order to facilitate value co-creation. It is important for the customer and the employee to have the same view of the value proposition. This can be connected with the ability to understand the customer in front of you, something which, according to this thesis finding, is of importance to the employees since roles can vary with the situation (Åkesson and Skålén, 2011). It is also in line with Grönroos (2011) and Homburg et al. (2009) who claim that the employees' ability to understand the needs of their customers is critical. If a passive customer meets a passive employee, the customer's view of the organization's value propositions will be affected in a negative manner. The customer is in need of extra help, since he/she is passive. When encountering the passive employee, who feels that it is the customer's responsibility to help him-/herself, the customer will leave the meeting with feelings such as: "I don't want to come here again" or "I got no help at all!" This thesis implies that customers and employees need to have the same view of value propositions, in line with Schein (1980).

In the recently-mentioned example, the customer and the employee have different views on the value proposition. If the employee were able to describe how resource integration should take place (according to his/her enacted role), it would be possible for the passive customer to enact a more active role. If this were to happen, value would be co-created. The change of role (Herrmann et al., 2004) would only occur if the passive customer were lacking motivation and the employee succeeded in motivating him/her. If it were a passive customer who lacked the knowledge and skills needed to be able to enact a more active role, then this change of role would not be possible. This is in line with the findings of this thesis, i.e. that the more active a role is (e.g. information integrator) - the more determined the role seems to be. This has to do with the fact that the person enacting the role is so independent and confident, leaving limited scope for modification

5.2.1 Towards a theory on value co-creation

This thesis has focused on customers' and employees' resource integration when co-creating value, with the aim *of describing and explaining how value is co-created by addressing the customer-employee role constellations during direct interaction*. It is claimed that value co-creation occurs through resource integration (in line with Vargo and Lusch, 2008) and that actors enact roles and form role constellations during the value co-creation process. In accordance with Heinonen et al. (2010), it is claimed that value co-creation is dependent on the customer's role; however, my argumentation enhances the discussion in Heinonen et al. (2010) by also focusing on the role of the employee, since the two jointly form a role constellation.

Apart from Akaka and Chandler (2011), who draw on social roles as resources in an effort to explain value co-creation among different actors, S-D logic lacks an explanation as regards how the co-creation of value occurs in these actors' contexts. Therefore, this thesis proposes that the ten foundational premises of S-D logic, together with the four theoretical propositions and the role constellations presented in this thesis, should be seen as an approach towards building a theory of value co-creation. Together, these three building blocks offer an explanation as regards what it is that occurs when a customer, or employee, co-creates value; hence, it deepens and extends how value is co-created.

Through the ten foundational premises (Vargo and Lusch, 2007), it is understood that knowledge and skills are important (FP4), and hence the actors since they are the ones with the knowledge and skills, and they are resource integrators (FP9). It is also understood that it is the customers' perceived value that is centered on (FP2 and FP8) and that the customer is a co-creator of this value (FP6) and always decides what value is to them (FP10), thus the service organization cannot deliver value (FP7).

The focus of the ten foundational premises is resource integration and value co-creation. But exactly how resource integration actually occurs is not stated in the ten foundational premises. In this aspect, the four propositions presented in this thesis offer an explanation by showing that resource integration and value co-creation are strongly intertwined in practice. Resource integration concerns knowledge and skills as well as how customers incorporate and apply their knowledge and skills (Moeller, 2008). The four propositions do offer the explanation that resource integration occurs in the context of roles since a role determines how to use the knowledge and skills (Mullins, 2007). Further, the role constellations illustrate how customers and employees integrate their resources to co-create value. Thus, the role constellations help us understand the actual interactions linked to resource integration and value co-creation.

In this thesis, it is claimed that, due to variation in resource integration, the customer and employee roles, as well as the role constellations, may differ from time to time, since the resource integration provides opportunities for the creation of new potential resources that can be used to access additional resources (Vargo and Lusch, 2011; Vargo et al., 2010). This can, for example, be an employee who has to transfer a lot of knowledge to a customer in order for resources to be created, something which can be time consuming. However, this can also be, for example, a discussion between friends which ends up with someone gaining new skills; skills that will be useful for the customer or employee on the next occasion of resource integration. In line with Vargo and Lusch (2004:2); "resources are not: they become", depending a lot on the context, and each context is unique. Hence the value creation networks are constantly changing (Lusch et al., 2010). Therefore, which role one enacts will depend on capabilities to integrate resources; e.g. knowledge, skills, and motivation. Since the role is defined by knowledge, skills, and motivation, it is possible to gain new skills and enact another role. This is in line with Grönroos (2011), who states that customers' and employees' value co-creation processes consist of coordinated actions whereby both parties can learn together and from each other, and they can also directly influence each other. Hence, this thesis claims that the co-creation of value is dynamic.

Heraclitus' famous saying: "You cannot step twice into the same river, for other waters are continually flowing in" (Kirk, 1951:35) is useful for explaining the dynamics of role constellations. Just like the water in a river, the roles, and thus the role constellations, are continually changing. The moment you put your foot in the water, the water changes and, due to the constant flow, the river is never the same. The same goes for the roles in a role constellation; when the customer interacts with an employee and learns from this meeting, the two might enact other roles. Hence, due to their knowledge and skills changing over time so do their roles, creating better prerequisites for co-creation. In other words, they adapt to each other. Therefore, the role constellations' dynamic nature shows that the co-creation of value is a continuously changing process. This is in line with Payne et al. (2008), who claim that the learning process has an impact on how customers and employees engage in value co-creation interaction. Like everything else in our lives, the co-creation of value is marked by a continuous learning process which emphasizes the importance of knowledge and skills, in line with the foundational premises of S-D logic (Vargo and Lusch, 2007). Hence, the roles an actor is going to enact are dependent on the context and, since the context is constantly changing (Chandler and Vargo, 2011), so do the roles and thus the role constellations change over the course of time. Besides, this dynamic aspect makes the role constellations and the value co-creation process interdependent.

This thesis also claims that the employees' need to be aware of the importance of motivation, since it is on their agenda to motivate their customers. This is connected with the fact that it is the employees who are responsible to adapt to the customer's role. For example, if a customer needs to be motivated, then it is up to the employee to enact a role that will enable this to come about. Otherwise, it can be hard to motivate a person (Rabey, 2001). Motivation is related to the drive to use knowledge and skills to arrive at intended outcome in the co-creation process and thus it is important to the view that resources are becoming (Pels et al., 2009), and that the co-creation of value is a dynamic process.

5.3 Managerial implications

Important implications for management can be drawn from this thesis. The following applies not only to managers in the public sector but also to those active in the private sector.

First, much can be gained for managers to think and act in accordance with the service perspective; to view employees and customers as operant resources who work together, by means of resource integration, to co-create value. Employees and customers are not passive recipients for organizations to deliver value to. Organizations must, rather, engage individuals and view them as active co-creators in defining and delivering value. To quote Ramaswamy and Gouillart (2010:30), it is no longer about "build it and they will come". Rather, it is about "build it with them and they're already there".

Second, it is believed that the role constellations represent an important tool for employees when deciding which role to enact on meeting a customer for the first time. Hence, which role to enact when approaching the customer. It is obviously necessary for the employee to be aware of what kind of role he/she usually enacts, and to understand when a different role can be desirable. The service organization could have an 'expert' whose job it is to sort out the customers. This expert could decide whether the customer is an active, passive or devoted one. This will facilitate the employees' role enactment and make them more secure in their roles. Although, a possible problem rises if the employees lack the knowledge and skills as well as motivation needed to fully enact a certain role.

Third, managers need to be aware of the fact that not all roles match oneanother well. This can be a source of conflict between the employee and the customer. Since the customer may base his/her entire view of the organization on his/her relationship with the employee, the reputation of the organization may be jeopardized. The fact that not all roles function well together can be a reason as to why certain customers are dissatisfied with the service.

Fourth, within e-government research, there are those who think that face-to-face service can completely be replaced by self-service. At least, the employees' importance in the e-government context may be expected to be low. The findings in this thesis do not support this. There are no standardized humans; there will always be a variety. There will always be someone in need of face-to-face interaction, in need of extra support. In line with Prahalad and Ramaswamy (2000), it is thus argued that organizations are likely to cope with several distributions channels.

5.4 Concluding reflections

When something is coming to an end it is customary to reflect about whether anything could have been done differently? Should I have used another approach when tackling customers' and employees' resource integration when value is being co-created? Perhaps I should have selected another empirical context since I was completely unfamiliar with e-government when I started writing my thesis. But then again, studying e-government has been enriching and has led to my gaining insight into the context. I also believe that e-government being a new field of research when I started considering it as an empirical phenomenon helped me realize that it is an open field and, because not much research had focused on e-government, I felt that 'there are things to be done here and my research can actually make a difference'. As with all case studies, they are valid in the context being studied; in my case, e-government. Therefore, my roles and role constellations contribute to e-government research. However, I believe my research will also make a contribution to the ongoing debate and discussion about value co-creation. My research on customers' and employees' roles and how operant resources form role constellations gives us clues to how the mechanisms regarding the actual interactions linked to resource integration and value co-creation, can be understood.

Regarding the roles of customers and employees, and the co-creational perspective, I would like to make it clear that there are still some remarkable differences between being a customer and an employee, regardless of how much co-creation is going on.

5.5 Suggestions for future research

Research into both the empirical phenomenon of e-government in this thesis and the theoretical area of S-D logic is in its early stages. Both research fields need more research, both individually and when combining the two areas. The five following areas are especially interesting for future research.

First, future research could empirically test the roles of the customers and employees in other context to explore how the various roles operate together and could also test the roles and role constellations of different types of services to see if they are valid in other contexts, e.g. appointments with the hairdresser and the doctor, and when buying a car. The reason for being, for instance, an accessibility needer could be further researched. Is it due to wanting 'optimum' value or is it due to difficulties co-creating the service, e.g. a need for help and guidance from the employee?

Second, future research could focus on the utilization of web 2.0 technologies, e.g. blogs, wikis, and social networks for resource integration. Empirical research is needed into how these technologies are used in resource integration. These technologies help customers to engage in dialogue with both the service organization and other customers, thus contributing to the knowledge and skills of the customers.

Third, quantitative research should test the presence of the roles and, hence, how many customers and employees enact a certain role. Quantitative research should also focus on researching how general the three role constellations identified here are across empirical contexts and how strong the connection is in the various role constellations.

Fourth, comparative studies could be conducted in order to see if the role constellations remain valid across various professional group, socio-cultural contexts, or countries. This is also important because more and more e-government services are being designed on a supranational level, e.g. EU-based e-government services.

Fifth, future quantitative research could study the possibility of enacting multiple roles and role constellations. Since we enact a number of roles each day, the roles presented in this thesis might not be the only ones customers and employees enact; thus, it would be interesting to study the possibility of other roles and role constellations.

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Role constellation in value co-creation

The thesis consists of five separate papers, one of which is a literature review and four are empirical papers. The empirical papers are based on data from the public employment service and the customs service, both in Sweden. The focus is on customer-employee role constellations during value co-creation.

The thesis offers two main contributions; the first of which is to service research by expanding knowledge of resource integration and value co-creation using e-government as the empirical context for outlining customers' and employees' value co-creation. The second contribution concerns which roles customers and employees enact during resource integration when value is being co-created. It was found that the roles of the employees were; interactor, customer oriented party, co-creator, and empowered party, while a customer can have the role of information integrator, accessibility needer, dialogue keeper, and/or knowledge transferee. Based on these two contributions, the thesis outlines principles regarding role constellations in value co-creation. The role constellations suggest that customers and employees enact roles that impact how their resources are integrated.

Finally, the thesis contributes towards building a theory of value co-creation by proposing that the ten foundational premises of S-D logic, together with the four theoretical propositions and the role constellations presented in this thesis, should be seen as an approach to building a theory of value co-creation. Together, these three building blocks offer the following explanation as to what occurs when a customer and an employee co-create value: (1) the ten foundational premises focus on resource integration and value co-creation. (2) The four theoretical propositions offer the explanation that resource integration occurs in the context of enacted roles since a role decides how to use the knowledge and skills. (3) The role constellations give concrete examples of how customers and employees integrate their resources to co-create value. Thus, the role constellation framework helps us understand the actual interactions linked to resource integration and value co-creation.

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