Nurturing Service Innovation in health care through employee involvement

Service-Dominant Logic

Purpose – The purpose of this paper is to study how interaction and collaboration between front-line employees and customers nurture service innovation in a health care context.

Methodology/approach – Two qualitative case studies were conducted in order to contribute with theoretical and empirically grounded knowledge about employee involvement in service innovation. Data are collected by in-depth interviews and observations within two divisions at the County Council of Värmland, Sweden.

Findings – The findings suggest that interactions between front-line employees and customers nurture service innovation in two ways; concurrent with co-creation and remote from co-creation. The former implies customers and employees collaborating in direct interaction to innovate new service. The latter that service is innovated by front-line employees’ drawing on previous knowledge and experiences about customer’s needs generated during co-creation. For both types of service innovation the involvement of front-line employee is essential. Further, the paper gives a better understanding of employee involvement and intra-organizational processes of service innovation.

Research implications – Systematical empirical studies on employee involvement and management of employee involvement provide insights of service innovation and co-creation processes.

Practical implications – Service providers in health care should facilitate involvement of front-line employees in service innovation as a prerequisite for a successful outcome and an enhanced customer value.

Originality/value – Service innovation nurtured by co-creation has not been systematically studied in previous empirical research. The paper examines the notion of service innovation remote from and concurrent with co-creation as an alternating process.

Key words – Service Innovation, Employee involvement, service dominant logic, value co-creation, health care, Sweden

Paper type – Research paper
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1. Introduction

Customer involvement in and contribution to service innovation and new service development has been a key theme in the research literature (Prahalad & Ramaswamy, 2000, Alam, 2002, Matthing et al, 2004). It has, for instance, been concluded that customers often come up with more creative ideas than professional service innovators (Kristensson et al., 2004, Magnusson et al., 2003). It has also been shown that ideas generated by professional service innovators usually are easier to implement than customer generated ideas (Magnusson et al., 2003). In more recent literature front-line employee involvement is suggested to be pivotal for a successful service innovation (Cadwaller et. al., 2009, Kesting & Ulhøj, 2010, Ordanini & Parasuraman, 2010). Front-line employees are well equipped to generate creative and implementable ideas based on their knowledge from direct customer contact (Melton and Hartline, 2010).

Following recent advantages in service marketing and management research (Vargo and Lusch, 2004, 2008), we argue that value co-creation nurtures service innovation. During the interaction with customers, employees collaboratively co-create value (Prahalad and Ramaswamy 2004; Grönroos 2011, Echeverri and Skålén 2011). However, how service innovation is nurtured through value co-creation has not been systematically studied in previous empirical research. We suggest in this paper that service innovation is facilitated by front-line employee’s knowledge about customers needs, combined with knowledge about organizational capabilities Thus, the aim of this paper is to study and create an understanding of how front-line employees and customers collaborative value co-creation nurture service innovation. Further we examine how the service innovation process occurs in relation to co-creation.

In order to illuminate on our aim we draw on a study of service innovation in a health care context. Health care is a suitable context for studying how value co-creation nurture service innovation, since it is an innovative rich context characterized by extensive collaboration between the employees and the patients. More specifically we studied two innovation projects at the County Council of Värmland (CCV); the County Council of Services (CCS) and the Health Habilitation and Rehabilitation Centre (HHR) centre. Data were collected by in-depth interviews and observations with managers and employees. Further the data consists of industry publications and archival material.
The findings show two different practices for employee involved service innovation. Firstly, service is innovated during the direct interaction between front-line employees and the patient. We refer to this form as *service innovation concurrent with co-creation*. Secondly, front-line employees contribute to service innovation back-office by utilizing their experience of previous co-creation with the patients, referred to as *service innovation remote from co-creation*. These two types of service innovation are situated in time and space by relating them to previous research into service innovation processes (Gustafsson et al., 1999, see also Sundbo, 1997 and Wilhelmsson and Edvardsson, 1994). In addition to identifying these two basic practices of innovating service, the implication of our findings is discussed in relation to previous research on resource based theory within service research (Vargo and Lusch, 2004; 2006). We find that front-line employee involvement enables new resource constellations as existing and established intra-organizational processes and practices are improved through collaboration and interaction with external (patients and suppliers) and internal (front-line employees and management) parties.

The following sections review previous research into service innovation (in general and public sector in particular), employee involvement and service dominant logic. Method and findings are then presented followed by a discussion based on the review of theory and empirical findings. Conclusions, theoretical and practical contributions are then offered.

## 2. Theoretical review

### 2.1 NSD and Service Innovation

There are a large amount of definitions of service innovation in previous research. In traditional theories of innovation an innovation is defined as a radical act which introduces a new element or a new combination of old elements (Shumpeter, 1934; Sundbo, 1997); offerings that is not previously available to customers and that requires modifications in service providers and/or customers competences (Ordanini and Parasuraman, 2010, Menor and Roth, 2007). It may include reinvention or adaption of an innovation in another context, location or time period (Hartley, 2008) or as Sundbo (1997, p.438) argues that “innovation is a large-scale activity which is reproduced. Either the innovation (e.g., a new product) is made in many copies, or many people follow the same new pattern of activity. This is the case when a process or an organisational innovation is implemented (e.g., the innovation of
customer orientation where all employees are taught to 'put the customer at the centre').” Barcet (2010) defines an innovation to be specific and identifiable with regard to the result obtained by clients or users. The result should introduce something new into the way of life, organization, timing and placement of what can generally be described as the individual and collective processes that relate to consumers.

Previous research advise that public service sector literature is sparse (e.g. Hartley, 2008; Windrum, 2007; Albury, 2005) and there are insufficient consideration of how the context, goals, processes and stakeholders of public service organizations can be developed (Hartley, 2008). Without innovation in the public sector the pressures for lower costs, pressures for efficiency and improved performance can result in increased workloads for already heavily-pressed staff (Albury, 2005). Røtnes & Dybvik Staalesen, (2009) argues that the public sector needs to be more innovative to meet customers’ expectations, which in this article refers to patients in a healthcare organization.

2.2 The service innovation process

Several studies of innovation and new service development in service firms present service innovation as a process with several phases (eg. Sundbo, 1997; Gustafsson et.al., 1999; Wilhelmsson & Edvardsson, 1994; Alam, 2002). Edvardsson & Olsson (1996) explain service system as the resources available to the process for realizing a service concept; resources and organizational structures required to produce the actual service. The service concept is a detailed description of what is to be done to satisfy the needs and wishes of the customer and how this is to be achieved, that is with resources and processes (Meyer Goldstein et al., 2002). A service process is the chain/chains of parallel and sequential activities; activities that are needed to generate the service (Shostack, 1984; 1987).

Based on empirical research Gustafsson et. al. (1999) describes the process of new service development with four phases. In the first phase the idea is identified, often by an individual within the organization. The idea is evaluated from the organizations objectives and how well it satisfies the needs of the customer before a decision is taken for further development of the service. The second phase is the project formation phase where the main purpose is to assemble a project group with specific knowledge and competence to realize the service. An appropriate strategy and methodology is developed before proceeding into the next phase. Designing a service requires the identification of the specific skills necessary to provide the
Designing the service includes the construction of the service concept, service process and the service system. Customer’s needs are identified and analyzed as a base for designing the service concept (Johnson & Gustafsson, 2000). Resources in the service system are defined in order to create prerequisites for the new service. Edvardsson (1996) argue that resources and structures often develop gradually during the design phase as an alternating process between the service concept and organizational aspects.

The transition from design phase to the implementation phase is often vague. The implementation phase starts when the service is launched internally and externally. Often the internal launch regards information and education of employees whiles the external launch implies a market entrance marketing the service to customers and other stakeholders. Even though the service is launched the service development process is not finite. The service may be further developed and the previous stages are considered once again. Wilhelmsson and Edvardsson (1994) suggest that the four phases intervene and should be regarded as parallel and sequential.

2.3 Dominant logics

Research in service innovation has been rooted in a traditional way of product development focusing on tangible goods (Ordanini & Parasuraman, 2010). From a goods centered view the purpose of economic activity is to make and distribute things embedded with value (Vargo & Lusch, 2004; Grönroos, 2009). Value can be described as value-in-exchange which implies that output is produced to the customer as a value distribution (Lusch et. al, 2007). Thus, in a goods dominant logic customers are not involved more than being an operand resource, a resource on which an operation or act is performed to produce an effect (Vargo and Lusch, 2004). Looking into the context of healthcare from a goods dominant view customers (patients) receive service in the terms of nursing and medical aids; patients as operand resources that needed to be acted on and not involved in the production of service.

Service research identified the need of a new alternative paradigm of marketing, a new paradigm that should account for the continuous nature of relationships among marketing actors (Sheth and Parvatiyar, 2000; Vargo and Lusch, 2004). In the beginning of the 21st century the discussion flared arguing that if organizations should be able to compete through service it needs more than adding value to products (Vargo et.al, 2008). Michel et.al. (2008) argues that the innovation literature has been built upon a good-dominant logic which has resulted in a restricted and out-moded perspective. Primarily the traditional innovation
research was related to products, such as technological artifacts (eg. Drejer, 2004, Droge et.al, 2009). As an example Sundbo (1997p. 437), discuss that it depends on the degree of standardization and technology involved if small changes can be developed into real innovations. *The more standardization and the more technology, the more real innovation*”. This implies that it is difficult to involve the customers in the innovation process. Many innovations can better be understood by deploying a S-D logic perspective (Michel et.al, 2008).

The new, service- dominant, logic integrated goods with services instead of arguing that service were different from goods. “*S-D logic considers the relationship between service and a good – that is, a good is an appliance used in service provision*” (Vargo and Lusch, 2006, p. 282). In service dominant logic service is viewed as a value-supporting process whereas the goods are seen as value-supporting resources (Grönroos, 2006); appliances that provide services for and in conjunction with customers. Marketing started shifting “*away from the exchange of tangible goods toward the exchange of intangibles, specialized skills and knowledge, and processes*” (Vargo & Lusch, 2004 p. 2). Customers are something to be captured or acted on and should be involved in the process as operant resources with knowledge and skills (Vargo and Lusch, 2004). Even within healthcare consumers (eg. patients) can be seen as a source of competence (Prahalad and Ramaswamy, 2000).

Embedding operant resources into objects, changing the integrators of resources and reconfiguring value constellations leads to a change in the organizations value creation (Michel et. al. 2008). In a value creating orientation (S-D logic) value emerges and unfolds over time rather than being a discrete, production-consumption event as we can see in an output-producing orientation (G-D logic) (Vargo, 2009). Thus, G-D logic considers service as units of output whereas S-D logic sees service as the process of doing something for and with another party (Maglio et. al, 2009). Service dominant logic proposes a conceptualization of service innovation that is based on the application of competences and skills. Ordanini and Parasuraman (2010) describe service as a co-produced process that involves the application of competences. That in turn supports a new perspective for thinking about service innovations. Value is realized in the co-creation and sharing of resources (including skills and knowledge) among exchange associates such as customers, employees and management. By considering the customer as a co-producer an internal process is demanded, involving employees as a base for creating the best prerequisites for a good outcome. Edvardsson
(1997) argues that the focal point of service development is to create prerequisites for service which customers perceive to be attractive. Therefore companies must understand customers’ needs, expectations and perception of quality. An active customer interacting with personnel, with the service script and supporting tangibles, implies a need to develop trusty and close relationships to increase customers perceived value (Vargo & Lusch, 2004; Matthing et.al., 2004).

2.4 Front-line employees’ role in Service innovation

Considering the customer as a co-producer of value demands an internal process involving employees in order to be able to create the best prerequisites for a good outcome (Edvardsson, 1997). Front-line employees with skills and knowledge gained through experience and frequent interactions with customers have strong impact on service innovation and improved customer service (Ordanini and Parasuraman, 2010). Involving front-line employees in service innovation facilitate for identification of customer requirements. Organizations which involve front-line employees in the service innovation process manage to change their outdated working processes towards the development of customer oriented services which tends to be more successful (Skålén, 2009, see also de Jong & Vermeulen, 2003).

Actors and professions need to interact to enable the service to be produced (Barcet, 2010). Grönroos (2000) argues that solutions to customer’s problems come as a result of processes (series of activities) where different types of resources are used in interaction with customers. This implies that front-line employee involvement in service innovation may facilitate for all phases in the new service development process presented by Gustafsson et. al. (1999). In the idea phase employees may contribute with ideas based on customers’ needs and requirements as a base for a new or developed service. In the project formation phase employees competences may be used for creating a well functioning team and to develop a strategy for the continued service development process. When designing the service in the third phase, employees define and re-configure resources facilitating creation of prerequisites for the new service based on their knowledge and skills about both customers and the organization. Finally, front-line employees may contribute with information and education internal to other employees as well as market the service external to customers in new or existing markets. Thus, involving front-line employees facilitates the implementation of the new service and co-creation of the innovation outcomes with customers. From a value creation perspective
value creation takes place in the interaction between front-line employees and customers as a joint value creation process. The provider participates as co-creator of value with the customer as a prerequisite for value-in-use (Grönroos, 2011).

3. Methodology:

3.1 Research context

This paper is based on two case studies, County Council Services (CCS) and Health Habilitation and Rehabilitation (HHR); two divisions of the County Council of Värmland (CCV) – the public hospital facility in the region of Värmland, Sweden. The study regards the first phase of a three year research project called ECSI: Employee-driven Customer-oriented Service Innovation. Criteria’s for research projects within ECSI are that the organizations should invest in service innovation focusing on both front-line employees’ involvement and customer orientation.

3.1.1 County Council Services

The first of our two case studies focusing on the development and designing of new working processes with and around a storage elevator. Replacing sixteen departments’ stockrooms the elevator function as a tool for higher efficiency and a secure delivery process of medical aids, pivotal for treating patients. This new logistic structure implies re-constellations of existing and new resources. The service innovation project group consisted of five employees with several areas of knowledge (medical, logistics, project development and organizational skills) working both direct with patients and back-office responsible for medical supplies and internal services.

3.1.2 Health Habilitation Rehabilitation

The HHR division is a habilitation organization handling adult clients (in this study called patients) with physical and mental disabilities. Operational objectives of the division are to create prerequisites for the almost 900 clients to develop their abilities, to compensate for disabilities and to facilitate for living in and understanding the society. With the same structural conditions and from a growing demand for HHR service, resources had to be integrated in new ways and new working processes developed. A new care package with priority lists and a high quality service stood in centre. In total 40 employees, doctors, psychologists, curators, physiotherapists, speech therapists and occupational therapists, are
involved in the project working in cross-professional groups (stage 1) and professional
groups (stage 2) to reach consensus and to secure the quality of the new care package,
 focusing on meeting patients needs and to create prerequisites for value co-creation.

3.2 Sample and procedure

A qualitative research methodology allowed direct observation and interviews with
employees and managers within both projects aiming to find how collaboration and
interaction between front-line employees and patients nurture service innovation. In the early
stages of research and answering questions like “how”, case studies are perceived to be the
most appropriate (Yin, 1994; Eisenhart, 1989). Different sources of evidence are used:
interviews, observations, industry publications and archival material. Typical for case studies
is to combine methods for data collection and to investigate contemporary phenomenon with
focus on the strategy for understanding the dynamics within its real-life context (Yin, 1994;
Eisenhardt, 1989).

The observations lasted between 60 minutes and eight hours. Notes were taken during or
directly after the observation were accomplished. The interviews and meetings lasted
between 25 minutes to 90 minutes and were recorded, transcribed and coded. The findings of
the interviews were first described in code themes, with words that expressed the data, and
then grouped to form categories. In the following part key issues and themes that emerged
from the data are discussed.

4. Findings

Empirical data shows that within the studied divisions in CCV service innovation takes place
in two ways, concurrent with co-creation when front-line employees are interacting and
collaborating directly with the patient, often face-to-face on an every-day-basis. It also shows
that service innovation is based on skills and experiences from the daily work life with
patient, what we refer to as service innovation remote from co-creation. Next, a more detailed
part of the findings are presented.

4.1 Service Innovation concurrent with co-creation

Interaction and collaboration between front-line employees and patients occur every day
within health care organizations. Through this collaboration value is co-created and gaps
between actual and ideal service provision is identified. Ideas for improvements and
developments arise from co-creation of service. Development of new services constantly place patients in the center with the intention to encompass and adjust the service to enhance a perceived higher value for the patient and other parties involved.

In the HHR division front-line employees interact with the patient, and/or with the surroundings (depending on the client’s intellectual capacity), identifying needs and requirements to create the best prerequisites for a qualitative and high value service. One of the front-line employees quotes: “depending on how extensive the intellectual disability is you can have a dialogue with the client. For example: “I can see that you have a problem with this, how do you think about that? Shall we try to work together and see if we can change what we are doing in some way?” and so on. But sometimes you need to interact with the surrounding of the client, partners, parents, etc, in order to find the right measures”. Testing the new service leads to consensus on what methods to keep, what needs to be further developed and if methods and practices are lacking. Through collaboration with patients ideas can be developed and be feed into the service innovation process.

Throughout the whole service innovation process front-line employees are working parallel with the daily care of patients. In CCS this collaboration is combined with skills from warehouse management and ideas for a range of medical aids and working processes was suggested. Later testing e.g. different types of catheters and bunk papers in the daily operational work and identifying how new resource integrations and working processes will facilitate for providing the service are taken into account during co-creation service with the patients.

4.2 Service Innovation remote from co-creation

Data suggest an alternative way to innovate service compared to that identified as service innovation concurrent with co-creation. This second type referred to as service innovation remote from co-creation front-line employees nurture service innovation by drawing on knowledge gained from previous co-creation experience. Through interaction with participating employees ideas and proposals for new service and re-constellation of resources are discussed, designed and later implemented. An extensive front-line employee involvement is necessary for developing new services due to their ability to translate patients’ tacit requirements for how service should be provided.
Within CCS the project group designs the service provision process from supplier to the patient’s room without collaborating with patients. New resource constellations, design of working processes and suggestions for a range of medical aids were designed in relation to previously gained knowledge and skills, remote from co-creation. “Based on our permanent work at the nursing ward we became involved, representing our departments. We have revised the range and looked into working processes” (quotation from a project group member).

During work-shops indicators for perceived patient problems within HHR (e.g. insufficient ability for social contacts, individuals own health) was identified and discussed. Designing methods for helping patients to function in the society as well as creating a functioning service provision serves as examples for how innovation can be achieved without direct collaboration with patients.

In the next section we describe these two basic ways of how co-creation nurtures service innovation in relation to previous research on phases in new service development: idea phase, project formation phase, design phase and implementation phase.

4.3 Service innovation process

4.3.1 Idea generation

Ideas for service innovation originate from intra-organizational discussions as well as from direct collaboration with patients. One of the participants in the board of HHR also worked directly with client groups. “The ideas for how a "new" care package could be developed arose from working with “both worlds (organization and clients)” (quotation from one of the project managers). The decision for initiating the service innovation project was taken later.

A need for more effecting working processes and through collaboration with patients led to the evaluation of the daily working processes. Requirements from the management had to be met and a framework for priorities developed. In the preliminary stage within CCS health care logistics was compared to other industries in which the management’s idea of a storage elevator originated. In both cases front-line employees were involved to define and develop ideas in a structured way, initially at workshops and discussion forums. Based on the scarce resources for the range of medical aids and with focus on front-line employees need for spending more time with patients the service was questioned and gaps for improvements were identified. Ideas for more efficient intra-organizational processes were found. By
interaction between the project group and front-line employees from all departments ideas were generated from the daily care with patients. Through collaboration between employees and patients creative ideas for service innovation were identified. Thus, ideas for service innovation are generated both concurrent with and remote from co-creation.

4.3.2 Project formation phase

The composition of functioning and creative project groups has ultimately been made by the project leaders in both divisions. Based on front-line employees knowledge from different departments and/or professions the groups was put together. The composition offers a wide knowledge base with several advantages: experiences from nursing and direct contact with patients, skills from logistic processes and project management as well as knowledge about inventory management. “To create a satisfactory service, employees from health care and logistics needs to be combined” (quote from project leader).

To be able to develop successful service innovations that later will be provided in a comprehensive way all employees, including employees outside the project group, needs to be involved in one way or another. Due to patients insufficient knowledge about how service innovation in this context should be developed they are not involved in this phase. Divided into interdisciplinary groups evidence-based information is discussed. Service innovation in project formation phase can therefore be regarded as remote from co-creation.

4.3.3 Designing and testing

We find that the service innovation projects are designed and tested, sometimes sequential and sometimes parallel. External and internal requirements, such as the patients’ needs and the organizational structure, set the frame for the service design.

By changing the resource constellation service innovation gives the opportunity to spend more time with the patient, letting other employees handle areas such as logistics and technical development. During the whole process employees, within and outside the project group, came up with new ideas and requests for items and for the work around the elevator; ideas based on experiences from treating and interacting with patients. Based on evidence from previous treatment of patients within HHR the new care package and priority lists were developed. A database is designed to gather information about working processes, methods
and indicators based on clients physical and mental disabilities. The database will be used as a tool for the care package facilitating re-constellation of resources; the right employee should meet and treat the right patient.

In both cases patients are not directly involved in the design phase of the service innovation process. However, employees test the service design during treatment of patients, in order to create a well functioning service. Service innovation design occur remote from co-creation in contrast to the test phase where methods and processes developed in the design phase is collaborated and interacted in the daily health care. Thus, in test phase service innovation occur concurrent with co-creation.

4.3.4 Implementing the service innovation

In the last phase of the service development process the new service is communicated from the project group to all employees working with and around the elevator. During training the service innovation is integrated in the present service system, encouraging employees to give further suggestions and recommendations for ideas, affecting the new service positively. Through employee involvement throughout the service innovation processes new methods and processes are implemented parallel with design and test phase. At the time of implementation all employees already have knowledge on how to provide the service implying that implementing the service will be more easily carried through than if not. Collaboration and interaction with patients enables front-line employees to henceforth identify opportunities for improvement and innovation. The employees argue that the patients might not notice so much of the new methods itself, but they will gain from the new structured way of working. This implies that co-creation occurs both remote from and concurrent with service innovation in the implementation stage.

5. Discussion

This research has offered insights into how interaction and collaboration between front line employees and customers nurture service innovation within a health care context. Through the interplay between service innovation concurrent with, and remote from, co-creation, new services are designed and implemented. Direct interaction and collaboration between front-line employees and patients enhances skills and knowledge. Through interaction back-office
between front-line employees their experience from previous co-creation with patients are utilized. Parasuraman and Ordanini (2010) argue that shared employee knowledge fosters innovation in organizations.

The empirical data shows that both managers and employees argue for employee involvement in new service development, since their knowledge and skills are an important as a basis for designing services that creates value for patients.

Based on our findings and previous research (e.g. Gustafsson et al. 1999; Shostack, 1984, 1987; Edvardsson and Wilhelmsson, 1994; Sundbo, 1997) we have found that the service development phases are not separated from each other occurring sequentially; instead they are parallel and alternating. In CCV the development process involves the four stages described by Gustafsson et al. (1999). However, a specific test phase has to be added. Designing and testing occurs more or less sequentially in a circular way until the service innovation is ready for implementation. However, after implementation the service might be elaborated on further going through the process again.

![Figure 1. Service innovation process](image)

Findings implicate that within the development phases co-creation remote from and concurrent with service innovation occur variously. Ideas (phase 1) are generated both from management and through collaboration and interaction in a service relationship with the patients. Thus, prerequisites for service innovation such as new ideas are created both concurrent with and remote from co-creation. A higher value for patients, often in the form of
wellbeing and a higher living standard, as well as value for the organization such as monetary benefits are in focus during the first phase.

Project groups are formed (phase 2) based on front-line employees combination of skills without involvement of external parties; remote from co-creation. In phase three and four we find that the model is not linear, design and testing the new service is more or less separated from each other. For example, the new range of medical aids developed by the project team was tested and evaluated, leading to new ideas and further suggestions from the front-line employees. The range and working processes were redesigned to account for patient needs and structural organizational conditions.

Within HHR methods of the new care package are designed separately, without interaction with patients. Testing new methods occur during patient meetings. Knowledge is constantly evolving and new ideas generated. The new methods are more or less directly evaluated and brought back into the design phase. The implication is that that the design of the new service takes place remote from co-creation: employees use their skills and knowledge gained from experiences of co-creating service with patients to design the service. Testing the service, on the other hand, occurs concurrent with co-creation: front line employees and customers collaboratively try out the new service in the natural setting. Designing and testing proceeds in a circular way until the project groups considers the service innovation ready for implementation.

As argued by Edvardsson (1997) the service is formed prior to the final phase (phase 5). In HHR front-line employee involvement takes place during all phases in the development process and implementation the new service is completed parallel with designing and testing, even if a final time is set. The transition from design/test phase to implementation is vague, unlike regarding the elevator where a specific date and time was set for the service innovation project to be finished and the elevator to be taken into use. As front-line employees are involved existing knowledge can be utilized as interaction between employees in the project groups facilitates knowledge dissemination. New knowledge may also be discovered, that may lead to further idea generation and service innovation. Even after the service is implemented the development process is not finite, methods and process might be further developed depending on patients’ needs and organizational conditions.
5.1 Value creation or value facilitation?

Based in the empirical findings and previous research a model for how service innovation takes place in health care has been developed. To create an understanding for how co-creation nurtures service innovation in a health care context we have linked the service development process (Gustafsson et.al., 1999) to Grönroos (2011) value-in-use model:

![Diagram of service innovation through value-in-use](image)

**Figure 2. Service innovation through value-in-use**

With this model we argue that idea generation (1) takes place in all parts of the model – in value facilitation (internally), value co-creation (in collaboration between customers and employees) and value creation (in the customers resource integration process). Ideas are generated from management with requirements for saving time and space to make service provision more effective. Desirable results from management consist of new resource constellations creating prerequisites for monetary savings. Further, the CCV aims to create conditions so that patients can accomplish value-in-use by offering a high quality service. Priority lists, accurate methods, effective working processes and more time available for interacting with patients should contribute to value creation.

Project groups are formed remote from co-creation, in the (2) providers’ side of the model. Vargo and Lusch (2004; 2008) suggest that value is always co-created in a collaborative process. Instead of receiving service as value-in-exchange patients will be involved in the value co-creation process as operant resources. Grönroos (2011) argue that from a value creation perspective provider participates as co-creator of value (value-in-use) with the customer whereas the customer participates as a co-producer of resources and processes with the provider from a production perspective. In relation to these positions we, with the developed model infer that design (3) of new services takes place remote from co-creation,
back-office, from a production perspective. Developing and designing service innovation occurs remote from co-creation and function as prerequisite for value facilitation. However, when testing (4) the service design, front-office, patients function as a part of the value creation whereas co-creation takes place concurrent with service innovation. When the service innovation is implemented (5) new processes and methods are necessities for interaction and collaboration between front-line employees and patients. Future ideas will then be generated based on the new resource constellations and activities.

In relation to previous research we argue that front-line employee involvement is pivotal for a successful service innovation. It is suggested that service innovation is facilitated by front-line employee’s knowledge about patients’ needs. We argue that front-line employees are able to combine knowledge about patients with knowledge about organizational capabilities which facilitates for co-creation and the nurturing of service innovation in health care.

6. Conclusions
The aim of this paper is to study and create an understanding of how front-line employees and customer’s collaborative value co-creation nurture service innovation. In this study we make several contributions to previous research about service innovation in public sector as well as service marketing and service logic literature.

This study creates an understanding of how service innovation occurs from a service logic perspective on value. We introduce the notion of service innovation remote from and concurrent with co-creation. Concurrent with co-creation implies that service innovation occur through direct collaboration and interaction between employees and patients. Service innovation remote from co-creation implies that knowledge and skills about patient needs is generated during co-creation experiences, brought into the service innovation project by front-line employees. Further, we suggest a way of describing the service innovation process in several stages arguing for service innovation occur as an alternating process foremost between design and test phase. Finally, we argue that front-line employee involvement enables procurement of patient’s resources; knowledge and skills, combined with knowledge about what the organization realistically can offer. Involving front-line employees in service innovation facilitates co-creation of service with patients which in turn creates prerequisites for future idea generation and service innovation.
References.


