

# RELATIONSHIPS IN CONSTRUCTED SERVICE DEVELOPMENT NETWORKS – A STUDY OF SERVICE DEVELOPMENT WITHIN PUBLIC ORGANIZATIONS

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## ABSTRACT

**Aim of the paper and literature addressed:** The aim of the study is to present a model over the service development process, that focus on an inter-organizational perspective showing the complex setting of inter-related actors and the relationships among the various actors and their functions in the development process.

**Research method:** The study uses a qualitative approach. The data collection is based on in-site visits at the organisations involved in development project and in-depth interviews with 14 central actors (top and middle managers and project leaders) in the development project.

**Research findings:** Although many studies have focused on new service development, relatively little research has been undertaken into which actors participate in the service-development process, the roles they play, and the resources they bring to the development process. This paper is based on an ongoing study and the preliminary findings can be described in the following way. The development process can be divided in four sub-phases, each with different important actors. Due to the public context the first phase exists before the actual development process starts, giving the structure and the guidelines for the development process at an institutional level. The second phase is the first part of the service development process where the specifications or the requirement for the developed service (extended service concept) are created/developed. In this part of the process four main actor roles or functions were found (i) Information carriers; (ii) Information collectors, (iii) Information translators and (iv) Supporting actors/facilitators. In the third phase the technical

specifications or the requirement for the system (extended service concept) are handed over to the external system developer. Here we have a complex setting where a group of public organizations meets and communicates with a commercial organization. This process is also stretched over a long period of time and consists of complex communication and learning between the actors. The fourth phase is the implementation phase consists of the implementation of the new system. Here we have again a complex setting where we have four main actor groups; the system developer, the development project group from the development project, the commercial actor performing the public transport and the user of service that must interact with each other.

**Main contribution:** The main findings from this study is the identification, description and characterisation of the different actors groups in a constructed service development network

**Keywords:** Service development, organizational learning, network

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Work in Progress Paper

## INTRODUCTION

A service need to be delivered via a service system built up by a network of interrelated actors (Edvardsson, 1997; Syson and Perks, 2004). In many cases these actors are outside the focal organisation, and thereby not within the direct control of the organization. In order to develop new services, or to innovate services, the capability to seek and make use of new knowledge outside the firm, such as knowledge resources from suppliers, business partners and customers is considered as a key factor for success (Atuahene-Gima and Wei, 2011; Froehle and Roth, 2007; Jensen and Nybakk, 2009). Service development requires a novel combination of tangible and intangible organizational resources and personal skills both from service producers and customers (Vargo and Lusch, 2004) and success will greatly depend on how services configure such sets of resources (Lusch *et al.*, 2007). Due to this one critical factor in developing, or innovating, new services, are the participation in networks with diverse partners which has a positive effect on innovation. Schilling and Werr (2009) have concluded, based on their literature studies in the area, that successful innovative service firms must see themselves as part of an *innovation network* in which they interact with various actors in their environment, such as customers and innovation partners, in order to exchange resources and to obtain knowledge and ideas.

Despite this, an investigation of a number of literature reviews of the existing service development research shows that most of the research in the service development area has been with a focus on an intra-organizing perspective, *i.e.* focusing on how the development process has been carried out within an organization and the interaction between the various actors and the context where this takes place is to a large extent disregarded (see for example Akamavi, 2005; Johne and Storey, 1998; Jong and Vermeulen, 2003). This focus on an intra-organizational perspective on service development has resulted in that the interactive and collaborative aspects of service development have been overlooked (Syson and Perks, 2004). One way to overcome this limitation in the research is to apply a network perspective in the studies of service development. According to Stevens and Dimitriadis (2004) and Akamavi (2005) the existing service development models do not really catch the true character of how new services actually are developed. Smith and Fischbacher (2005) claims that there is for example no studies done based on the impact different actors has on the service development process. One way to overcome this limitation in the research is to apply a network perspective in studies of service development (Syson and Perks, 2004). Applying a network perspective on service development; “...helps identify actor member’s resources and facilitates understanding of the development of relationship” (Syson and Perks, 2004 p. 263).

Traditionally business relations and networks develop over time, and the development process for a relationship can be described as an investment process in which the relationship between the parties passes through different stages or steps (Dwyer *et al.* 1987; Ford *et al.* 1998). During this process there is more or less a free selection of partner and there trust and commit is gradually increased, in order to receive benefits in the future (Ford *et al.* 1996; Turnbull *et al.* 1996). The relationships are based on some sort of voluntary co-operation, and

the relationships continue to exist only if the parties involved yield rewards that exceed the costs of the relationship. If not, the relationship is dissolved or at least re-evaluated and/or transformed in the long run (Dwyer *et al.* 1987).

In other settings, selection of partners to cooperate with, and the freedom to dissolve or transform the relationship, does not exist. In some settings some of the actors are for example selected based on the result of competitive or public tendering processes. In many situations a partner is selected based on the lowest bid during tendering and not on previous satisfying outcomes. Other actors are being a part of the network due the institutional context, based on legislation and political consideration, i.e. some actors are designated specific formal roles in the service provision network. This situation indicates a somewhat contradictory networks-situation where you can not selected the partners, but still you have to interact closely with them to deliver and sometimes develop the actual service. Due to this lack of freedom in the creation of relationships this type of network could be described as a network built up by forced relationships, formed by the institutional frames surrounding these types of settings, i.e. some sort of formally constructed network.

One such example of a forced or constructed network for service provision is the public transport in Sweden. This governmental service is legally divided up between a number of actors (SLTF, 2002), which means that there are a number of actors that must collaborate, relatively actively, within a framework of networks in order to jointly create and provide the perceived customer offering – public transport. The government set the guide-lines and create the institutional frames for the public transport, and they assign the services via public transport authorities within a specific geographical area (Swedish Code of Statutes 1997:734). However, privately owned ‘operators’ perform the actual service delivery (SLTF, 2002). Fulfillers are selected by means of a public tendering process regulated by the *Public Procurement Act* (Swedish Code of Statutes 2007:1091; 2007:1092). In order to give all the actors an equal opportunity, factors such as previous experience and relationships between parties are prevented from influencing the selection of fulfillers. Instead the price (assuming a certain standard of service) must be the dominant factor in deciding who will be awarded the contract. Besides all the actors involved in the actual process, being a part of the public service offering, there is also a political and governmental (bureaucratic) structure that must be handled that also gives a number of actors with formal roles that needs to included and handled in the development process (Waluszewski, 2011).

Based on the discussion above the aim of the study is to identify the actors prevalent in the development, or innovation of services in these types of forced relationships and to analyze the role that these actors undertake in the process. The main idea behind this article is to present a model over the service development process, that focus on an inter-organizational perspective showing the complex setting of inter-related actors and the relationships among the various actors and their functions in the development process. The model presented in this article is built upon the articles, ‘Actor Roles in Service Development Process’ (Gottfridsson, 2009) and ‘Joint service development – the creations of the prerequisite for the service development’ (Gottfridsson, 2012).

## THEORY

Studying Johnes and Storeys (1998) thorough literature review of the new service development area shows that most of the models are focused on an intra-organizing perspective, *i.e.* focusing on the actors and resources within the organization and on how different stages in the development process have been carried out, or should be carried out. Later reviews (see for example Akamavi, 2005; Jong and Vermeulen, 2003) give basically the same picture of the focus within the research area. Most of the models existing in the area of service development research describe the service development as a sequenced and structured approach to how the companies' services are developed. For example, Scheuing and Johnston's detailed model from 1989 consisting of fifteen sequential steps describing how services are, or at least ought to be, developed. Other researchers have used models with fewer steps and more non-linear approaches to describe how services are developed (see Akamavi, 2005; Johnes and Storey, 1998; Jong and Vermeulen, 2003, for a review of different NSD-models). In most of these models, one could at least identify three rather broad phases that the service development process goes through (Lievens *et al.* 1999).

1. The first stage *the planning stage*: consists of pre-development activities; idea generation and screening; market and technical assessment; market research; financial and business analysis; concept development and evaluation; various ideas for the new service are generated and evaluated.
2. The second stages, *the development stage*: refines the previously generated ideas into a service that is ready to go to market. The effort required during this phase is often extensive as the provider creates and develops the service concept, the service system, and the service processes needed to deliver the service.
3. The third stage, the market launch stage, is concerned with how the services are introduced in the market.

Even though these models can be described in terms of describing very structured processes consisting of different phases, the actual service development processes themselves are seldom that structured (Bowers, 1989; Edgett, 1996; Johnes and Storey 1998; Martin and Horne 1993). According to Stevens and Dimitriadis (2004) and Akamavi (2005) the existing service development models do not really catch the true character of how new services actually are developed. Smith and Fischbacher (2005) claims that there is for example no studies done based on the impact different actors has on the service development process. One way to overcome this limitation in the research is to apply a network perspective in the studies of service development. Applying a network perspective on service development; "...helps identify actor member's resources and facilitates understanding of the development of relationship" (Syson and Perks, 2004 p. 263).

Schilling and Werr (2009) have concluded, based on their literature studies in the area, that successful innovative service firms must see themselves as part of an *innovation network* in which they interact with various actors in their environment, such as customers and innovation partners, in order to exchange resources and to obtain knowledge and ideas. The service development process is interactive and involves coordination of actors and parties who are involved and results in the exchange of intangibles through communication, which can be argued to form an important aspect of the process (Syson and Perks, 2004). To manage such a network, these various actors must be involved in a way that facilitates communication and creates a climate in which actors feel motivated to contribute and be

creative (Schilling and Werr, 2009). In order to highlight the importance of actors in various processes, the Network perspective according to the IMP-School is very useful. According to Håkansson and Johansson (1992) a network could be seen as built up by three, to each other, related variables; *actors*, *resources* and *activities* (the so-called ARA-model).

Actors are those who perform activities and control resources. Actors can be individuals or a group of individuals (an organization or a part of an organization). Therefore actors can be seen on different organisational levels. By engaging in exchange processes with other actors, relationships are created. Actors could therefore be seen as embedded in network of relationships, giving access to other actors' resources. An actor's control over a resource can either be direct through own ownership, or indirect by the relationship to another actor. By controlling resources and activities a company may not only gain access to important means, the control could also lead to the development of knowledge that can improve the company's ability to achieve certain goals. An increased control by one actor means that some other actor decreases their control. Therefore one can spot reasons for conflict as well as co-operation in the network.

## RESEARCH METHOD

This study builds empirically on two separate case studies ( $S_1$  and  $S_2$ ) that both focuses on service development in public transport, characterized by constructed networks. The first case study ( $S_1$ ) consist of six service-development projects that ran over a longer period of time with a view of developing and transforming public transport in to a modern and easily accessible to different groups of travelers (see table 1). The study uses a qualitative approach with interviews.

*Take in Table 1 about here*

### **Table 1: Overview of the cases**

The second case study ( $S_2$ ) concerns the development of a new ticketing and information system to be used aboard public transport vehicles (buses and trains). The system will function both as a support system for the employees to provide the service, as well as giving the customer the option of self-service. In this system the involved organization's specific needs should be coordinated and condensed into one system specification that functions as the base. This specification is then developed by an external technical consultant. The studied development process was a co-operation between seven Public Transport Authorities (PTAs) and one commercial operator in the central region of Sweden. The project is a long-term project running over a period of 6–8 years, from initiating the idea to fully implementing the system. The ticketing and information system is based on a common standard created by a professional and industrial organization for the public transport sector. The data was collected by using quasi-structured interviews since this allows flexibility and gives the respondents the scope to delineate their views more freely. The present, as well as two former project managers, were interviewed twice. Besides these, all eight sub-group managers were interviewed twice. On recommendation from the others interviewed, three project group members were interviewed. All together 25 interviews were conducted with 14 respondents.

## FINDINGS AND DISCUSSIONS<sup>1</sup>

In order to create a structure for this section the discussion and findings are organized around the three broad service development stages presented in the literature review, i.e. the *planning stage, the development stage, and the market launch stage* (Lievens *et al.* 1999).

### The planning stage<sup>2</sup>

Since the service studied is a public service the driving forces behind the development is sometimes some sort of regulation or policy decision induced by the central or the local policy makers. These decisions affects to a high extent what is developed and how the development is done, and with what resources. Due to this situation the first phase exists before the actual development process starts (1 in figure 1), giving the structure and the guidelines for the development process. The decisions about new services or about changes in regulations that affects the services needed to be offered to the users and developed is taken by a group of actors that area labeled as the 'Strategy Creators'. In the public transport case this group can for example be the government, deciding about such thing that the public transport should be available for all groups of travelers including elderly and disabled in year 2010, or that the travels done with the public transport should be doubled until year 2020. Some of the strategic decisions is taken far away from the day-to-day activities, and are therefore needed to be anchored in and decided about on the local levels, within the organizations that perform the services. This formal decision group is labeled the 'Deciding Actors'. In order to make this decision possible to happen there is needed a support from a number of actors, that provides the resources needed, or give mandate and power to the actors actually performing the development process, but also to provide information with a view to influencing the 'strategy creators'. They are here labeled as the 'Supporting Actors'.

*Take in Figure 1 about here*

#### **Figure 1: The Constructed Service development Network**

Since most of the development work is done under financial constraint and constraints of other resources there is a battle for the resources. Therefore it also exist a group here that is labelled 'Competing Actor', which are actors that also strive for getting resources for their project and their assignments. The outcome of this planning stage is an idea about a service to be developed or on a more strategic level a decision about some sort of service development project that should be undertaken or done based on decisions by the management in charge (and based on the input from the strategy creators).

### The development stage<sup>3</sup>

In our studied cases the knowledge needed for creating the new system was spread throughout the involved organisations and held by different individuals based on their individual experiences and knowledge. Since these people were spread between a number of different organisations, they had to meet and have the possibility of interacting with each other and exchanging their experiences. This was done by regular meetings that were held

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<sup>1</sup> This part of the paper is very short due to the restriction of pages to be used. Behind the discussion there exits empirical date backing up the different actor groups that is presented in the different stages, and also describes their roles and what they contribute with in the process.

<sup>2</sup>The section 'the planning stage' is built upon the Gottfridsson, 2009

with all the actors participating in the development project. The group that met was handpicked with the purpose to make sure that all the different needed aspects for the development task were covered. This is described in figure 1 by the arrows connecting the individuals described as information carriers (A in the figure).

The result of this group communication was collected by a number of actors who gathered and interpreted some sort of consensus description that was formulated in written documents (b). This translation and interpretation of the group's discussions was made by either a group leader or the people in the steering group who were leading the project. The documents were brought back to the actors who then interpreted and discussed the material during new meetings with the information carriers (c). At the end of the process, the newly created knowledge is manifested in the system specifications that could be described as an extended service concept and a description of the service. The collection and translation is here carried out by an actor in the project management group that formulates it into a part of the system specification or the extended service concept (d). In this process it is important that management support these processes in order to create the basis for organisational learning (e).

In order to make this type of innovation process functioning there must be a need for a number of different types of functions or roles that must be carried out by different actors. In this study four main roles or functions were identified (i-iv referring to figure 1);

- (i) Information carriers;
- (ii) Information collectors;
- (iii) Information translators,
- (iv) Supporting actors/facilitators.

The first group, the information carriers, are the actors from the different organisations who are participating in the project and possess the important knowledge that should be tapped and translated, and then implemented into the new ticket and information system. The second group is the information collectors who are the ones that gather the knowledge from the information carriers and put this together into more coherent pieces of information. This group work is in close cooperation with the information carriers. At the next level, the information is passed to an actor that could be described as the information translator. This actor collects, interprets and translates the knowledge to, what in the end becomes, a new service; or in this case as an extended service concept or specifications in the form of a system requirement that is handed to an external actor. In this process, giving feedback to the participants is important. The feedback is done in several ways in an attempt to make the knowledge somewhat more explicit and to give the actors something to act and react upon in order to continue their knowledge transformation process. In order to make this possible and to facilitate the process, the fourth group, the supporting actors or facilitators play an important role.

### **The market launch stage**

The fourth phase is the implementation phase (4 in figure 1) consists of the implementation of the new system. Here we have a complex setting where four main actor groups; the system developer, the development project group from the development project, the commercial

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<sup>3</sup> The section 'the development stage' is built upon the Gottfridsson, 2012

actor performing the public transport and the user of the public transport needed to fulfil these roles.

## CONCLUSIONS

The challenges of new service development may be greater in the public sector, due to a more complex structure and a wider variety of stake holders each with their opinions and agendas to be handled in the development process (Smith and Fischbacher, 2005). There are a lot of actors from different organizations involved in this process and they have different experiences and knowledge as well as different ideas about the system that must be combined into one specification and used as the base for the continued service development. Besides all the actors involved in the actual process, being a part of the public service offering, there is also a political and governmental (bureaucratic) structure that must be handled that also gives a number of actors with formal roles that needs to included and handled in the development process. Given it is a service development project in the Public sector, some of the partners participating in the process is also tendered partners, following the Public Tendering laws. All this put together gives a complex service development setting, within a constructed network.

Although many studies have focused on new service development, relatively little research has been undertaken into which actors participate in the service-development process, the roles they play, and the resources they bring to the development process.

A conclusion that could be drawn from the studied cases is that the service development processes is dependent on the key actors and the resources and support they get to perform their task. Since this group seldom has formal power, or the power to grant or direct funds, there might be a conflict between the different needs and interests. This group must be backed up by all the other functions, especially from the group supporting actors. From this point of view it is important to have actors with power to decide over the scarce resources engaged in a project. In many cases the conflict over resources obstruct the development possible to undertake in the Public Transport sector, since it is financed mostly by government spending, *i.e.* resources that are scarce and always under debate how to use most efficient. Formal support could therefore be seen as an important resource in the service development process, since support from powerful actors is a vital ingredient in the quest for space to perform the task. Supporting actors could also be more of indirect nature in form of interest, or pressure groups who by their existence and work creates support for the development work. This gives another important conclusion, that all important actors in the process must not necessary be internal actors in one of the organizations, they can also exist outside the organisations.

Based on this multiple case study we have found that there are some actors who are controlling resources that are of great importance for the service development. This study shows that the main contributions from other actors in the service development process are mostly intangible resources, such as information, knowledge and expertise (compare Syson and Perks, 2004). These resources are embedded in the organisation and therefore more difficult to access for other organizations. Even if the access is possible there are difficulties for the receiving organization to accommodate these new resources, they have to develop new skills in order to be able to enable this kind of resources. According to Syson and Perks (2004) informal communicative mechanisms are appropriate means to this kind of

knowledge transfer. The service development process could in itself also be seen as an interaction process, whereby the development process proceeds as a result of interaction and co-operation between a changing set of actors (Syson and Perks, 2004) and whereby a number of exchanges take place between the interacting parties. The main exchange consists of information and other intangible aspects.

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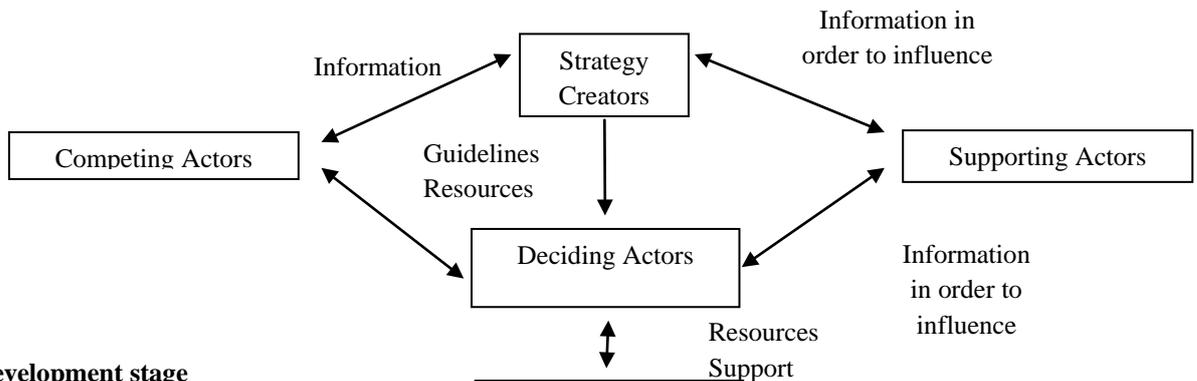
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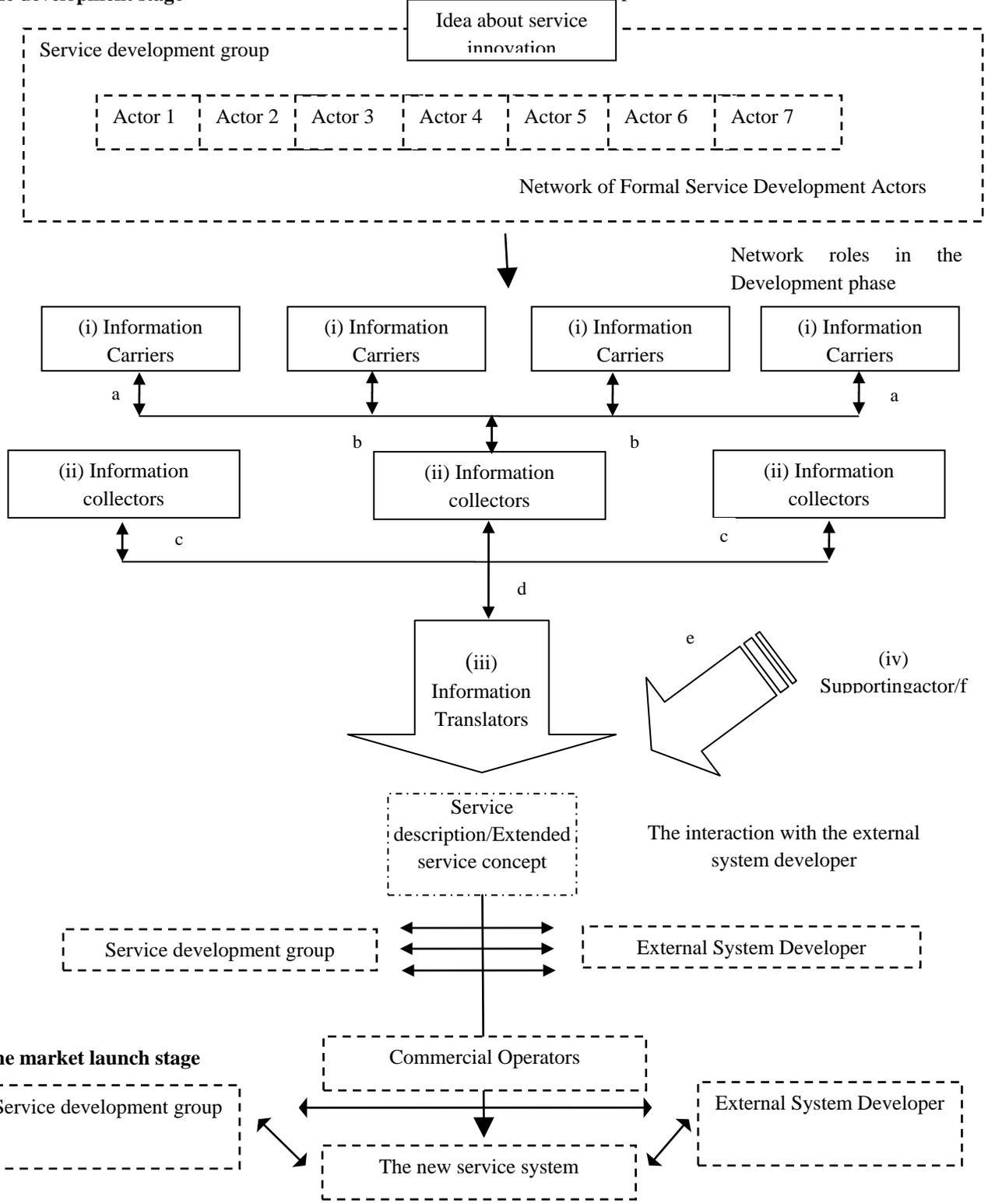
Table 1: Overview of the cases

Case	Description
1	The first case concerned the reconstruction of a bus route from a neighbourhood with many elderly residents to a shopping centre in a metropolitan area. This case involved a variety of actors including local government officials, private homeowners, private retailers, and interest groups representing the elderly and disabled. The main focus of this case was the integration of these various actors from the public and private sectors.
2	In the second case, a more comprehensive reconstruction of public transport within a sparsely populated municipality was undertaken. The plan was to create a totally new public-transport solution to reduce costs and increase accessibility. To achieve these goals, the needs of different groups of travellers (for example, schoolchildren and commuters) had to be integrated by reorganising travel routes and timetables, rebuilding the physical infrastructure, and encouraging the subcontractors to increase the quality of the public transport provided.
3	The third case involved several minor projects jointly aimed at making public transport more accessible to elderly and disabled travellers. This included the development and implementation of a live traffic information system, the rebuilding of bus stops, the reorganisation of traffic routes, and a marketing campaign regarding improved accessibility for the elderly and disabled.
4	The fourth case was a study of the long-term (6–8 years) development of a new ticketing and information system involving collaboration among six Swedish public transport authorities. The collaboration involved: (i) a formal project group of four members with overall responsibility for the project; (ii) an advisory and management board of managers of public transport authorities; (iii) large project groups of approximately 25–30 participants representing different areas of expertise within the Swedish public-transport sector; and (iv) smaller task groups working on technical solutions to specific problems. In addition, an external technical consultancy firm was engaged to build the actual ticketing system. The ticketing and information system was based on a joint standard created by a professional and industrial organisation for the Swedish public-transport sector.
5	The fifth case was concerned with the long-term (5–8 years) development and implementation of a new ticketing and information system by a single public transport authority in one large Swedish city. The development process was conducted jointly with a technical consultancy firm that was responsible for developing the hardware and software for the project. At the beginning, the project was run by a project group, but it subsequently involved 8–10 subgroups that became responsible for developing and integrating various aspects of the system. A major challenge was ensuring that the system suited the needs of different groups of operating staff. As in Case 4, the ticketing and information system in this case was again based on a joint standard created by a professional and industrial organisation for the Swedish public-transport sector.
6	The sixth case concerned the development of the joint standard for Swedish ticketing and information systems noted above in Cases 4 and 5. This project started almost a decade ago with the aim of creating a joint ticketing and information system throughout the Nordic countries. More recently, a private listed company was created to formalise the work of standardising the requirements.

**1 The planning stage**



**2 The development stage**



**3 The market launch stage**

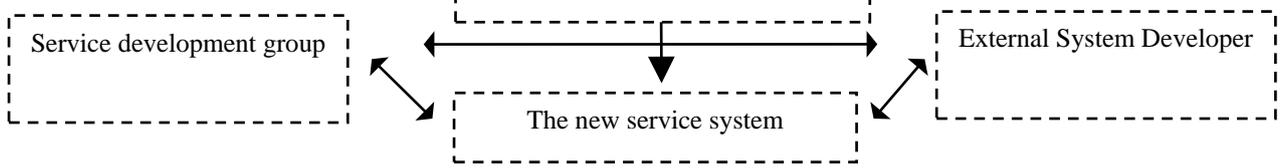


Figure 1: The constructed Service Development Network (Based on Gottfridsson, 2009 and 2012)

Network Actors in the Implementation phase