



## The concept of e-service from a social interaction perspective

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### Abstract

In this paper, the notion of e-service is defined and characterized from a social interaction perspective. e-Services are services where the service provider and the customer(s) do not meet at the same time, and/or at the same place, and the IT system acts as a service performer and medium in the service delivery process. A problem is that there are several terms used in the IS field to describe these new ways of using IT systems such as e-services, web-services and IT-services, and this creates confusion. The problem is both that different terms are used, and that they are considered to be self-services when they are social or inter-subjective to their fundamental character. We choose the term e-service to talk about this phenomenon and in the paper we will discuss the meaning of this concept from a social interaction perspective. The social interaction perspective of e-services presented in this paper is based on Communicative Action Theory, Service Marketing Theory and Information Systems Actability Theory. A key aspect of the Service Marketing Theory is the service encounter, i.e. the situated and social interaction that takes place when the service provider and the customer meet and produce a service in interaction. A key aspect of the Actability Theory within the discipline of Information Systems is to view IT systems as systems used for technically mediated business communication. This emphasizes that actors perform communication actions i.e. social interaction through the IT system. Bringing Service Marketing Theory and Information Systems Actability Theory together outlines a social interaction perspective on the concept of e-service useful in analyzing and designing e-services.

**Keywords:** E-service, IT-service, social interaction, concept, relationship, use situation.

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## 1 Introduction

Today, much of the world economy is focused on the service sector (Stafford and Saunders, 2004). One of the changes driving service economy growth has been the rapid development in computer technology, mobile technology and the Internet

(*ibid.*). There are e.g. mobile positioning services, traffic information services and banking services on the Internet. With the help of channels such as the Internet and mobile telecommunications, information and functionalities are delivered by service providers, and are used by customers with the help of information technology (IT). There are also services where the service provider renders the possibility for customers to interact with other customers, e.g. e-marketplaces. The characteristics for these types of e-services are that service providers and customers do not have meet face-to-face in order to deliver the service, because the IT system acts as a service performer (agent) and medium in the service delivery process. This is an area of study that needs new perspectives and new methods, because these types of services are likely to push the limits of systems development in terms of analysis, design and testing (Chidambaram, 2001). A problem is that there are several terms used in the IS-field to describe these new ways of using IT systems such as e-services (e.g. Stafford and Saunders, 2004), web-services (e.g. Stern and Davis, 2000) and ICT-services (e.g. Rodosek, 2003), and this creates confusion. The problem is both that different terms are used and the resulting confusion about the conceptualisation of this phenomenon within the discipline of Information Systems, and that they are considered to be self-services when they are social or inter-subjective to their fundamental character. We choose the term e-service to talk about this phenomenon and in this paper we will discuss the meaning of this concept.

According to Rowley (2006), who has done a thorough review of the research concerning the role and nature of e-service, there is no common agreement on the definition of e-service. However Rowley (2006) describes three characteristics of e-services:

- The primary value exchanged between the two parties is information, and our understanding of e-service has to be based on how information is perceived and used.
- An e-service is not constrained by space and time.
- E-services may also promote customer-to-customer relationships in another way compared to traditional services.

Rowley (2006) concludes that an e-service is deeds, efforts or performances whose delivery is mediated by information technology (IT) (including the Web, information kiosks and mobile devices), and that an e-service could be described as an information service provided as a self-service. Looking at IT as a mediator of services could be viewed within an organization. For example, Beynon-Davies (2013) defines ICT services as a set of defined services delivered to the users within the organization. However, this is not really what we mean by e-services because services defined in such a way is nothing new: they have been in place for at least 50 years. This is just IT systems that are developed and used in an organizational context. This traditional intra-organizational use perspective of IT systems, labeled organizational informatics (Beynon-Davies, 2013), where the user is an employee of the organization that provides the IT service, or where the organizational benefits of using it that is emphasized, is quite different compared to the e-service use context. The e-service concept implies that it is no longer the organizational and employees' use and benefits of the IT system that is in focus, but the use and benefits of the customer, i.e. the user is no longer an employee of the organization that provides the IT service. The notion of e-

service implies that we have to reconceptualize our view of IT system use. Due to the change of focus from IT systems as tools for administrative support to a means for delivering e-services, there is a need for theorising the use of IT systems in an external use context in contrast to the traditional organisational use context.

One area that could be helpful in order to discuss the concept of e-service is Service Marketing Theory (SMT). According to this theory, a service is produced and delivered in the interaction (i.e. in the service encounter) between a service provider and a customer (e.g. Gönroos, 1998) in order to fulfil customer needs. According to SMT, it is fundamental for services to be produced and delivered in a social interaction between the customer and the service provider. In the Social Sciences discipline, social interaction is defined as “*the process that takes place when people act in relation to each other*” (Johnsson, 1995). However, in SMT, IT systems are merely considered as a self-service technology (SST) (Meuter et al., 2000), which implies that e-services do not include social interaction.

We maintain that if we want to understand e-services, we have to understand the use of IT-systems as social interaction, not merely as a Self Service Technology (SST) and this can be done using the Actability Theory on Information Systems (ISAT). This theory is of interest because it describes the IT system as action systems used in a social action context (Ågerfalk, 2003; Persson and Goldkuhl, 2005; Ågerfalk and Eriksson, 2006). This context consists of social actors, social relationships, commitments, norms, rules and expectations.

The purpose of the paper is to provide a general definition of the concept of e-service, and to characterize it from a social interaction perspective. However, we do not intend to discuss what is and what is not an e-service; this is elaborated on in Hultgren and Eriksson (2013), and thus requires a paper of its own. The purpose is to define and characterize e-services from a social interaction perspective using the characteristics service specification, relationships and use situations, which are basic characteristics that we have found useful in order to analyze existing e-services and to design new ones. Given the context-specificity of IT artefacts, this conceptualization is only meaningful in the context of external use of IT systems. This means that it is the IT use of the customers that is in focus. The customers (as external users) can be consumers in commercial settings or citizens in public settings (Sysiac, 2011).

The e-service concept presented in this paper has been developed using a practice research approach because our aim was to understand and develop an understanding of the e-service concept. We wanted to understand why people had started to use the term service in the IT sector, and we wanted to define and characterize the e-service concept. The e-service research has also applied the epistemological strategy of multi-grounding. Multi-grounding means a combination of empirical, theoretical and internal grounding. How the research principles of practice research, practical theory and multi-grounding have been applied in the research are fully elaborated in Hultgren and Goldkuhl (2013) and Hultgren (2007). The social interaction perspective of the e-service concept presented in the paper is based on the analysis of approximately 100 e-services between 2002-2006. The e-services were selected in order to get a variation in relationships, use situations, complexity and the technology used. The theoretical perspectives used were the Communicative Action Theory, Service Marketing (SMT) and the IS Actability Theory (ISAT), and are described in more detail in section 2.

The paper is structured as follows: In the next section, the basic perspectives on social interaction, services and IT system use are presented. Thereafter, the social interaction perspective on e-services is described; in the following section a real e-service on the Internet is used to exemplify and illustrate the perspective. Thereafter, and related to the analysis, four aspects of e-services are discussed from a social interaction perspective. Finally, we conclude the paper.

## 2 Basic perspectives

The basic idea is that a social interaction perspective is fundamental in order to understand the concept of e-services. We also maintain that Service Marketing Theory (SMT) and the Actability Theory on Information Systems (ISAT) are both in line with such a perspective, complementing each other and useful in defining the concept of e-service. In this section, we elaborate on the concept of social interaction and present SMT and ISAT.

### 2.1 Social interaction

Social interaction means that people act in relation to each other. In this process, communication, i.e. how people use and interpret signs, is of great importance. In a social action context, communication is regarded as action, not only as the exchange of information, and such a view can be founded in the theories of speech acts (Austin, 1962; Searle, 1969) and communicative action (Habermas, 1984).

Communication always implies social interaction because a sign (written or oral) is something produced and something interpreted, and as such it is a link between two acts: a communication act and an act of interpretation (Eriksson, 2000).

According to Habermas (1984), social interaction can be described as a process, i.e. a sequence of actions performed in a social context. The actions are performed in order to create results and effects. Social interaction implies that social relationships are established and maintained between the actors involved in the interaction.

Habermas' (1984) Communicative Action Theory focuses on how communication acts are used for co-ordinating social interaction. This implies that the meaning of speech acts has to be related to a social context of actors, facts, intentions, commitments, norms, rules, social relationships and subsequent actions (which also could be new communication acts and material acts). In this process, communication is of great importance because communication is used to create information, commitments, and expectations, which govern the social interaction (ibid.). This view of social interaction is the basis for our analysis of e-services and a more detailed discussion is found in (Hultgren and Eriksson 2013, section 3.1).

### 2.2 Service according to Service Marketing Theory (SMT)

In this section, the concept of service is described according to SMT (e.g. Grönroos, 1998; Edvardsson et al., 2000). The reason for choosing SMT as one base for our point of departure is that it represents an internationally well-known and accepted way of looking at the service concept.

Edvardsson et al. (2000:32) define the service concept in general as:

*"... a chain of (sequential, parallel, overlapping and/or recurrent) value creating activities or events, which form a process. In this process the customer often takes part by performing different elements in interaction with the employees of the service"*

*company (other customers or equipment) for the purpose of achieving a particular result.”*

From this definition, we can see that a service consists of a number of value creating activities, which are performed in the social interaction between a customer and a service provider (the service company). The customer may also interact with other customers or equipment during the service process. The fact that the customer uses resources owned by the service provider has made Lovelock and Gummesson (2004) propose non-ownership as a basis for understanding the service concept. Lovelock och Gummesson (2004:34) describe "non-ownership", in this way: "We contend that services involve a form of rental or access in which customers obtain benefits by gaining the right to use a physical object, to hire the labour and expertise of personnel, or to obtain access to facilities and networks." This is also why the customer has to interact with the service provider or his/her equipment because the customer needs resources possessed by the service provider in order to achieve the desired result. For a more detailed discussion of the non-owner principle see Hultgren and Eriksson (2013, section 2.1).

One important aspect stressed in SMT is that the service concept is described as situated social interaction, i.e. the service is produced and delivered within the actual service encounter when the customer physically meets the actors who represent the service provider. This implies that a service is situated in place and time because the customer and the service provider have to meet and interact.

The description of the notion of service as situated social interaction is based on the fact that the production and consumption of the service is simultaneous, and that the service is produced in interaction, which implies that both the service provider and the customer perform actions. In this interaction, the customer performs activities in the process, e.g. delivering information or some other input into the service process. It is also claimed in SMT that the quality of the service is dependent on the presence and actions of other customers.

The service encounter also implies that actor relationships are created and maintained in the process, and that the interaction is often based on long-term relationships. In this interaction, human communication is of great importance. There is also a growing interest in how communicative aspects affect the service delivery process. Several researchers within the service area e.g. (Gummesson, 2002; Grönroos, 1990; 1998; Zeithaml et al., 1990) stress the importance of communication for the service process and service quality.

Today, there is also a growing interest in how to use IT in the service sector. However, in SMT the use of IT is merely considered as a self-service technology (SST), which implies that e-services do not include social interaction. SST is defined, and taken for granted, only as a technology used by the customer to create and consume the service with no human interaction occurring (Meuter et al., 2000; Parasuraman, 2000). Due to this focus on the use of IS as only an SST, the IT-system is only considered as a technical device, and below we address three problems which have emerged as a consequence of this perspective.

*The first problem* is that the only relationship that is in focus is the service provider-to-customer relationship. We claim that the interaction and the relationships between customers communicating with each other is also an important part of many e-services.

*The second problem* is the description of the character of the relationships, which are created, established and maintained by the use of IT systems. When the use of IT is discussed as SSTs, the customer-to-service provider relationship is discussed as a person-to-technology relationship. Gutek and Welsh (2000), for example, regard the relationship between the service provider and the customer as a pseudo-relation. The meaning of a pseudo-relation is that there is no need for face-to-face interaction between the service provider and the customer, which implies that they primarily describe the relationship as a technical one. We claim that if we want to understand the e-service concept, it is important that we realise the social character of these services.

*The third problem* is that the typical use situation described is where the IT system is used by the customer to perform the service for him/herself, i.e. delivered person-to-technology.

### 2.3 The notion of IT System according to the IS Actability Theory (ISAT)

The problems described in the section above means that we need a use theory for IT systems that can explain how the use of IT systems could be considered as social interaction, and not only the use of a technical system (Ågerfalk and Eriksson, 2006). One reason for choosing ISAT in discussing the concept of e-service is that the use of IT systems in ISAT is considered as situated social interaction. In Ågerfalk (2003), ISAT is presented based on the idea that IT systems are action systems used in a social action context, which includes actors, relationships, norms, values and beliefs, and the existence of social and material facts. The social context is what makes the actions performed at the user interface meaningful and is a basis for understanding the use of IT as a whole (Ågerfalk and Eriksson, 2006).

The definition of an information system (we use the term IT system) in ISAT is (Ågerfalk, 2003):

*“An information system’s ability to perform actions and to permit, promote and facilitate users to perform their actions both through the system and based on messages from the system, in some business context”.*

From the discussion of SMT above, we could see that in order to understand the concept of e-service, it is important to understand how IT can be used in a social interaction context. According to ISAT, it is possible to distinguish three different types of IT system use-situations (Ågerfalk, 2003):

- An interactive use situation exists when the IT system is used to ‘permit, promote and facilitate the performance of actions by users through the system’.
- An automatic use situation exists when dealing with the IT system’s ‘ability to perform actions’ on its own on assignment of some human actor.
- A consequential use situation exists when the IT system is used to ‘permit, promote and facilitate the performance of actions based on information from the system’. We prefer to call this use situation an external use situation (see discussion below).

The three use situations are constituted by two reciprocal acts – a providing act and a receiving act in relation to the user or the IT system. A providing act is directed from the user or the system, and a receiving act is directed to the user or the system.

### 2.3.1 The interactive use situation

A user interacts with the IT system when providing and receiving messages. The user performs a providing act when sending a message to the system. The user performs a receiving act (which always includes an interpretation) when receiving a message from the IT system. In figure 1, the providing and the receiving acts are viewed from the user perspective.

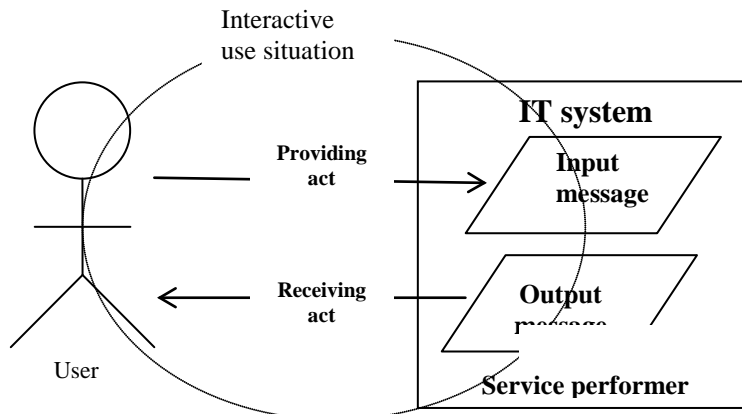


Figure 1. The Genuine Interactive Use Situation

Figure 1 describes the genuine interactive use situation, which consists of at least one providing act and one receiving act. However, an interactive use situation can also consist of only one providing act or one receiving act.

### 2.3.2 The automatic use situation

In the generic automatic use situation, the user does not act directly at all, but the IT system is acting on his/her behalf (figure 2). The system can perform providing acts and/or receiving acts on behalf of the user. Therefore the providing/receiving acts are defined from the perspective of the system. This also implies that the receiving act in this case does not include an interpretation because this presupposes a human being.

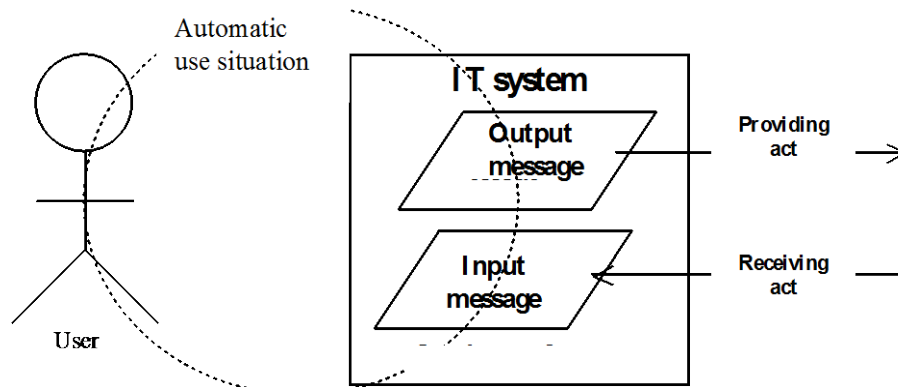


Figure 2. The Generic Automatic Use Situation

### 2.3.3 The external use situation

The generic external use situation consists of one or several external acts, i.e. actions that are not performed through the IT system but based on a message from the system (figure 3). This implies that the external act must be preceded by a least one receiving act and includes a human interpretation of the message.

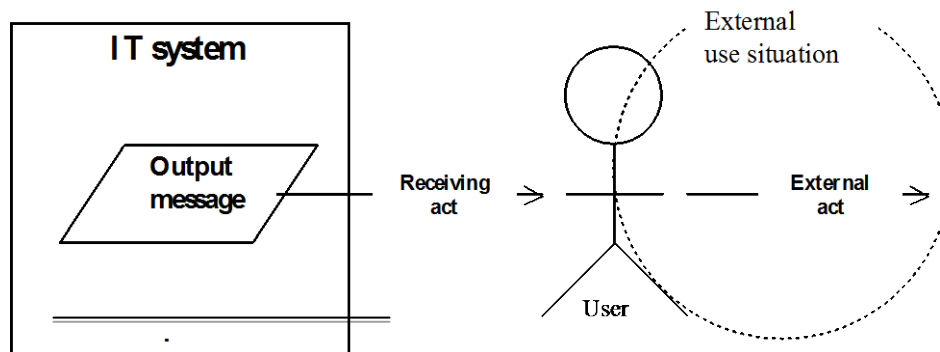


Figure 3. The Generic External Use Situation

The ISAT perspective is based on social-instrumental pragmatism (Goldkuhl, 2002) and speech-act and communicative action theories (e.g. Auramäki et al., 1988; Winograd and Flores, 1986; Habermas, 1984), which implies that the IT system is used for performing communication acts with the help of the system (Eriksson, 2000; Sjöström and Goldkuhl, 2003). Persson and Goldkuhl (2005) and Goldkuhl (2006) describe the IT system as a system for technology-mediated communication and they show how civil servants and citizens perform social interaction through the IT system in a public e-service context. Due to the purpose of the paper to define the notion of e-service and not only a public e-service, ISAT has to be reinterpreted into a more general e-service context. We address two problems in ISAT, which have to be addressed when applying ISAT in such a context.



*The first problem* is that ISAT does not describe the general customer to service provider relationship; it only covers the typical actor roles in public sector e-service provision. The customers (as external users) as we define them could be clients in a commercial context or citizens in public context.

*The second problem* is that the ISAT description of e-services does not include the customer to customer relationship.

### 3 A social interaction perspective on e-services

Based on the perspectives presented above, we can define the notion of e-service from a social interaction perspective as “*social interaction between an service provider and an customer, and/or between customers, using the IT-system of the service provider with the purpose of providing a result for the customer.*” This definition is based on the idea that IT systems are used for social interaction and the principle of non-ownership. If the customer owns the IT system, it is not meaningful to talk about an e-service, because then the customer has purchased a commodity product. The service provider has to own or control the IT system otherwise it is not meaningful to talk about an e-service. The customers (as external users) can be clients in a commercial context or citizens in public context (Sysiac, 2011). It is the customer’s use and benefits that are in focus, and it is the service provider who owns the IT system used. The customer gets access to the IT system as a utility but this does not mean that the customer has to pay for the service. Based on the definition above, the e-service can be described with the emphasis on three characteristics: results, relationships and processes.

#### 3.1 Results

The results are produced and delivered by actors involved in the social interaction in order to create a result, which is beneficial to the customer. These results are described in the *service specification*, which is the result that the service provider is responsible for. The results could be the exchange of information and digital objects and commitments, which creates social expectations.

#### 3.2 Relationships

The core of e-services is communication between social actors, although it is not face-to-face but mediated with the help of IT. When communicating, *social relationships* are created and maintained between the involved actors. Based on the actor roles, those of the service provider and the customer, we stress the importance of two basic relationships in the e-service context (figure 4):

- the service provider to customer relationship;
- the customer to customer relationship.

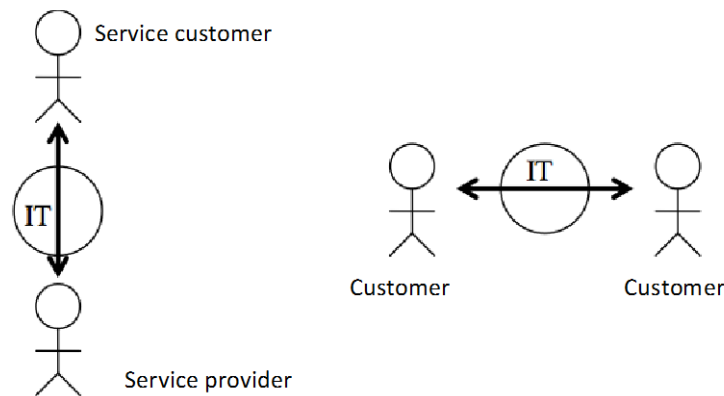


Figure 4. The Two Basic Relationships in an e-service Context.

One of the main ideas in ISAT is that the users of the system use the system to communicate with each other. In the service provider to customer relationship, the IT is used for communication between the service provider and the customer. This communication is performed with the help of the IT either automatically or interactively.

In the customer-to-customer relationship, the IT system is used for communication between customers in order to interact with each other. In the context of e-services, this basic relationship is common and important. Many of these e-services can be discussed in terms of network externalities (Liebowitz and Margolis, 2004). Network externality implies the change in the benefit, or surplus, that a customer derives from a result when the number of other customers of the same kind of product changes. As an e-service increases in popularity, it becomes increasingly valuable since you will have greater use of it.

It is also important to stress that these relationships are not only technical in character as described in SMT. These relationships are also social, because they are based on the performance and interpretation of communication acts performed in a social context. The communication acts are used to create relationships based on information, commitments and expectations, and the actors involved are responsible for this content. This interaction is also governed by social norms and rules, which are valid in the social context of the e-service.

### 3.3 Processes

The situated production and delivery of the e-service can be described as a number of activities where communication actions are performed through the system and based on information from the system by the service provider, the IT system and the customer(s). A fundamental base for these chains of activities, or processes, is a combination of the three *use situations* described above when the service concepts are performed.

## 4 The Internet-based marketplace

In this section, we illustrate how the social interaction perspective on e-services presented above can help us to understand and analyze an existing e-service on the Inter-

net. The e-service is a marketplace for ‘advertisers’ of used goods such as cars, toys etc. (to expose “for sale” or “want to buy” items) searchable by potential ‘readers’. The aim of the e-service is to let ‘advertisers’ and ‘readers’ meet. The ‘advertiser’ provides a textual message and an optional picture of the goods for sale or they wish to buy via the Internet. The web-based marketplace as the ‘service provider’ charges a fee for this service but this fee cannot be paid on-line, instead the customer (the ‘advertiser’) gets a password and a telephone number to dial and pay. After this payment and after a manual check of the advertisement by staff at the ‘service provider’, the advertisement is published on the Internet. The ‘reader’ can then be made aware of the advertisement (figure 5) in two ways: either interactively by searching, or automatically via a previously defined alert. If a ‘reader’ is interested in buying or selling the goods, he can contact the ‘advertiser’ by e-mail, filling in a form at the website, or phone. The ‘reader’ does not have to pay for the e-service.

The analysis below is structured according to the three characteristics of the e-service: specification, social relationships and the use situations.

#### 4.1 The service specification

The e-service has ‘advertisers’ and ‘readers’ of the advertisements as customers. The e-service for the ‘advertiser’ is to publish advertisements of goods that he wants to buy or sell and to make contact with interested ‘readers’ of the advertisement. The e-service for the ‘reader’ is to search for and present goods that are of interest for him and to make contact with the ‘advertisers’.

The screenshot shows a search results page for '1997 and newer Audi A6' on the AutoTrader.com website. The page includes a search filter sidebar on the right, a main table of listings, and a 'Modify this Search' panel.

**Search Filter (Modify this Search):**

- Make: Audi
- Model: A6
- Certified vehicles only
- Year: 1997 to Any
- Price: Any to Any
- Mileage: Any to Any
- Keyword(s): (e.g. black leather)

**Main Listings Table:**

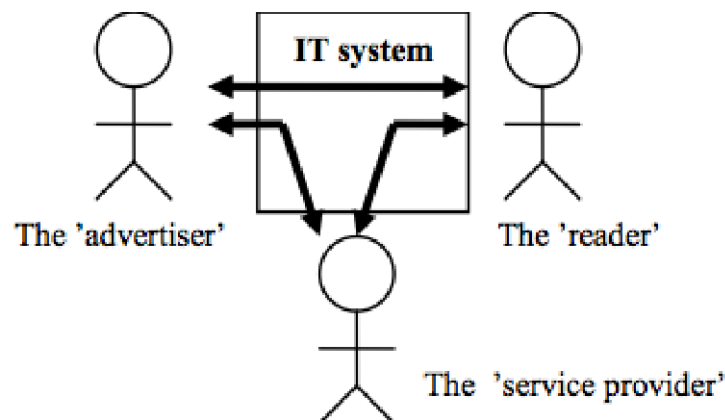
Photo	Year	Make & Model	Price	Mileage	Distance	Sold By
	2002 year	<a href="#">Audi A6 3.0 QUATTRO SEDAN AWD</a> VIN: WAULT54B12N036893	N/A price	53,353 mileage	3.65 mi from ZIP	Dealer seller
	2002 year	<a href="#">Audi A6 2.7 TURBO QUATTRO SEDAN AWD</a> VIN: WAULD64B72N041776	N/A price	28,202 mileage	3.65 mi from ZIP	Dealer seller

Figure 5. A ‘reader’s’ view from the Internet based Marketplace.

#### 4.2 The social relationships

There are three important social actor roles that have to be considered – the ‘advertiser’, the ‘reader’ and the ‘service provider’. The social interaction performed through the IT system between those actors creates and maintains three basic social relationships (figure 6):

- a relationship between the 'service provider' and the 'advertiser' (an service provider to customer relationship);
- a relationship between the 'service provider' and the 'reader' (an service provider to customer relationship);
- a relationship between the 'advertiser' and the 'reader' (an customer to customer relationship).



Figur 6. Relationships within the Marketplace

The relationship between the 'service provider' and the 'advertiser' is based on information, social commitments and expectations created with the help of communication acts. The 'advertiser' commits himself to what he has written in the advertisement and to pay in advance for the service. This relationship is governed by a number of social rules. Some of these rules are implemented in the IT system, and are followed when the 'advertiser' uses the functionality and the forms on the screen. Other rules are communicated by the 'service provider' to the 'advertiser' as text on the website. These rules regulate which kinds of objects can be advertised and how the 'advertiser' should behave, e.g. to behave in a sincere way. The 'service provider' checks manually if the 'advertiser' is complying with the rules before the advertisement is published. The 'advertiser' expects that the 'service provider' will publish the advertisement if the rules are followed and the fee is paid, because this is the commitment made from the service provider. The 'advertiser' also expects that it is possible to get in contact with potential 'readers' with the help of the e-service.

The relationship between the 'service provider' and the 'reader' of the advertisements is based on the 'service provider's' commitment to only publish advertisements that comply with the rules declared in the context of the e-service. The relationship is also based on the presumption that the e-service is free for the 'reader', because no information is presented to the 'reader' that says that he has to pay for the e-service. However, the additional service, where the reader is alerted with the help of an SMS, is a paid service. The relationship is also based on the expectations from the 'reader' that there will be a lot of advertisements to search and to read.

The relationship between the 'advertisers' and the 'readers' is important because the real value of the e-service is that it is a meeting place for the customers. This is a relationship that can be described in the context of a business transaction on two levels: a market and a dyadic level (Goldkuhl and Lind, 2004). At the market level, potential 'buyers' and 'sellers' interact through advertisements with the help of the e-service. At the dyadic level, a specific 'buyer' and 'seller' relationship is established. The relationship on the market level is based on the commitment made by the 'advertiser' and is regulated by the e-service. The relationship on the dyadic level is only partly regulated with the help of the e-service. There are e.g. rules for how the 'reader' of the advertisement can contact the 'advertiser' by e-mail or telephone, and an e-mail address is mandatory in the advertisement. However how the 'advertiser' and the 'reader' should interact as a 'buyer' or a 'seller' in the business transaction on the dyadic level is not regulated or supported by the e-service, and is something that the service provider does not take any responsibility for.

### 4.3 The use situations

The e-service includes a number of use situations (figure 7), which are important activities of the service process. Social interaction is based on a number of actions, which form a process. In this case, the process can be described as a number of inter-related use-situations where the 'service provider', the 'advertiser' and the 'reader' of the advertisement interact.

From the 'service provider's' point-of-view, the use of the IT system is based on an interactive use situation checking new advertisements and publishing them. The search and the presentation of advertisements for the 'reader', and the mediation of contact between the customers is an automatic use situation because the 'service provider' does not have to do anything: the customers and the system do all the work.

From the 'advertiser's' point-of-view, there is first an interactive use situation when registering the advertisement. The payment action made by telephone is an external use situation. The offering and requesting of the goods on the Internet is an automatic use situation for the 'advertiser'. When a contact is initiated via an e-message from a 'reader' of the advertisement, the 'advertiser' can use this information in an external use situation to contact the 'reader' via the telephone or by sending an ordinary e-mail. Further activities performed on the dyadic level of the business transaction, e.g. to negotiate, visit and make contracts is out of the scope of this e-service, and are considered as consequential in relation to the e-service.

From the 'reader's' point-of-view, there is an interactive use situation when searching for goods. If the 'reader' sends a contact message via the e-service, there is an interactive use situation. The additional alert service is defined in an interactive use situation, but is used in an automatic use situation when the system monitors incoming advertisements. This automatic use situation is turned into an interactive use situation when the 'reader' is alerted and interprets the message.

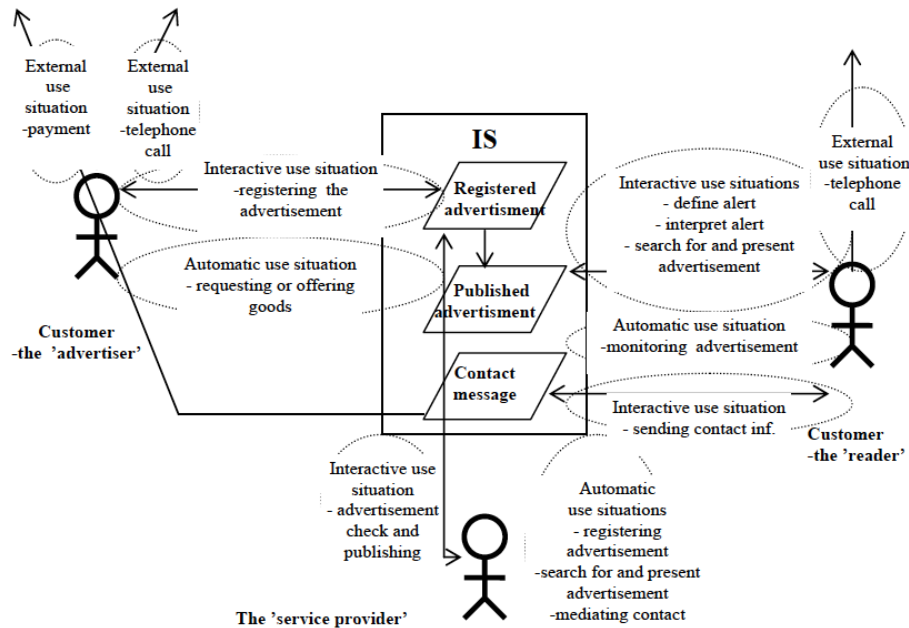


Figure 7. The Use Situations in the e-Marketplace.

## 5 Discussion

The aim of the paper is to define and analyze e-services from a social interaction perspective. Above we have shown how an e-service could be analyzed with the help of the social interaction perspective. In this section, we will further discuss the perspective.

### 5.1 The relationship between services and e-service

An e-service is different compared to a traditional service. In e-services, there is usually no face-to-face meeting between the customer and the provider of the service provider. Instead, the e-service meeting is mediated through the use of the IT system. For example, in the case of the e-Marketplace, the service provider does not meet face-to-face with the customers. For a more detailed description about the relationship between traditional services and e-services see Hultgren and Eriksson (2013).

### 5.2 The service specification

The e-marketplace example shows how the service specification can be described. The service specification has to be related to the needs of different customers. It is important to describe the service in an explicit way because it is used in the service offering, which implies that the service specification is communicated in the service provider-to-customer relationships, creating commitments and expectations in these relationships. This is also emphasised in SMT. For example, Grönroos (1990) emphasizes the importance of the “Augmented Service Offering” and that the service provider should make correct promises and fulfil the promises and commitments made in

the offer. This is also why the service specification has to be developed at the same time as the relationships are analyzed (see below). For example, it is important to recognize that the service provider for the e-marketplace does not provide e-commerce. The service provider only provides advertising, because the service concept does not include the buying and selling of goods. E-commerce implies other results and commitments.

It is important to define an e-service specification, which really contributes to customer needs, and to define what the service provider takes responsibility for and can control. Results and consequences beyond the service provider's responsibility do not usually belong to the service. In the example above, the business transaction after the contact has been established is not supported by the IT system and is therefore not a part of the e-service. However it is interesting to notice that a Marketplace only used for advertisements still implies a major commitment for the service provider. For example, the service provider is responsible for not allowing illegal social interaction taking place at the website. It is also interesting to notice that the legal system in Sweden considers the service provider to be responsible for the content of the advertisements at an e-marketplace even if the publishing is fully automated. For example, in Sweden, a service provider was convicted and sentenced to four years in prison for the intermediation of illegal drugs (Attunda Tingsrätt, 2012), even though the service provider never registered any adverts or published them in an interactive use situation or made any profits. He was only providing an e-marketplace for customers as sellers of illegal drugs to meet. The e-service was totally automated from the service provider's point-of-view. Thus, even fully automated actions performed by the IT system are considered to be social actions, and the service provider is responsible for these actions and their results.

### 5.3 The relationships

In a previous section we criticised the SST view of e-services due to three problems that we have identified. The first two of these problems concern relationships.

1. The SST view covers only the service provider to customer relationship (not the customer to customer relationship).
2. The character of this relationship is only described as personal-to-technology.

We claim that it is important to include the customer to customer relationships in the social interaction perspective. This conclusion is based on the analysis of approximately 100 e-services between 2002-2005. During this period, the social interaction perspective of e-services gradually evolved. We started our analysis by focusing on the customer to service provider relationship, but realised in 2004 that if the perspective was to be a useful tool for the analysis of e-services, we had to include the customer-to-customer relationship because this type of relationship was frequently occurring in the e-service data that was analysed, and it was impossible to analyse and understand the data without it.

We also claim that it is important to recognize that these relationships are social in character, even though they are created with the help of technology. The reason for that is that they are created and maintained by communication acts that create information, commitments and expectations governed by social rules. The idea of regarding an e-service only as a Self Service, which is defined as a "service in which there is no direct assistance from or interaction with a human service agent" deprives the e-

services from their inherent social character. It is not hard to see why e-services are considered a nSST. For example, a vending machine, a typical SST application, has a striking similarity with an IT system. They can perform activities on their own, i.e. they are automated, and the costumers can use these automated machines by themselves without meeting the service provider face-to-face. However, there is also a striking difference between an IT system and a vending machine. The IT system is a machine designed for human communication and social interaction. The vending machine is designed to provide goods. Thus a vending machine is not an e-service even if a computer controls it.

Recognizing that the relationships are social (and not only technical) places attention on the importance of commitments, social rules and roles in e-service provision. The e-service is used for creating commitments, and social rules are important bases for the functionality and the expected use of the IT system. Due to this, it is important to be clear about the meaning of the relationships and under what conditions they are created. The social roles are important in order to understand what it means to interact in an e-service context. From an e-service perspective, it is not the user role that is of main interest: it is the expected behaviors of the social actors involved in the social interaction. For example, in the case of the e-marketplace it is the role of the service provider, and what could be expected from him, and the customer roles and their behavior as social actors, that is of main interest.

#### 5.4 The use situations

The e-marketplace example illustrates that the 'service provider', the 'advertiser' and the 'reader' have to handle several use situations in relation to the IT system in order to produce and deliver the e-service.

We claim that it is important to recognize the use situations in order to understand the e-services because the use situations are fundamental when designing the service process. The e-marketplace example also shows that the service process is composed by a combination of the three generic use situations. The example also shows that the phenomenon of e-service cannot only be understood as an SST because this view only covers the automatic use situation from the service provider point of view and the interactive use situation from the customer point of view (figure 7 depicts use situations for the e-service example). Another problem with the SST-view is that the focus will be on how to automate the service provider's use situation making the customer do all the work. In order to understand, analyze and design e-services, a much broader view on the use of IT systems has to be considered. For example how IT systems could be used to automate the work of the customers.

It is also important to realize that some of the use situations cannot be automated because of the social rules governing the relationships. For example the interactive use situation where the 'service provider' checks new advertisements before publishing them, is hard to automate because it is based on rules for social behavior that are hard to transform into a computer program.

The service concept and the social relationships are important in order to understand the social requirements of the e-service while the use situations help us to understand the processes of fulfilling these requirements. The use situations can also be used to discuss how one type of use situation could be transformed into another. For example if an external use situation could be transformed into an interactive use situa-



tion, or if an interactive use situation could be transformed into an automatic, and thereby add more value for the customer or be more efficient for the service provider.

### 5.5 The general characteristics as a useful instrument for the analysis of e-services

The combined characteristics of service specification, social relationships and use situations described above are useful in order to analyze a specific e-service as has been shown above. This is important if you want to develop, use or evaluate an e-service. These characteristics are also useful if you want to characterize different types of e-services. For example, using the characteristics you can easily differentiate between an e-service aimed for advertisement of goods from an e-service aimed for eCommerce, because they differ in specification, social relationships and use situations.

## 6 Conclusions

In the paper we have presented a social interaction perspective on e-services. Fundamental for e-services is that the IT system acts as a service performer in the social interaction between a service provider and customers. The perspective is based on three cornerstones - the service specification, the social relationships and the use situations, where:

- the e-service specification describes the result that should meet customer needs and defines what the service provider is responsible for;
- the social relationships are of interest, both the service provider to customer relationship and the customer to customer relationship;
- the use situations describe the service process as a combination of the three generic use situations (the automatic, the interactive and the external use situation);

An e-service is service mediated by the use of an IT system. This means that neither ISAT nor SMT can solely explain the phenomenon. However, both theories are in line with a social interaction perspective and complement each other. The social interaction perspective on e-services that we have presented benefits from SMT in order to understand and emphasize:

- the roles of the customer and the service provider;
- the customer perspective on services;
- the view of services as situated interactions produced in interaction with the customer.

ISAT is helpful in order to understand and emphasize:

- the fact that the IT system is used for communication between the users of the system;
- that the character of the relationship created with the help of IT can be described as a social relationship although it is technically mediated;
- the role of the IT system as a service performer acting on behalf of human actors;

- the three generic use situations.

We claim that the social interaction perspective on e-services presented in the paper is useful in a number of ways:

1. The fact that IT systems mediate social interaction has sometimes concealed the genuinely social character of e-services. The analysis shows that even if human service providers are not physically present in the e-service meeting, we can still consider it as social interaction. It is important that the notion of e-services is not reduced to a limited human-computer interaction, or to an SST because the social character of the e-service should be acknowledged (Sysiac, 2011), and the social interaction perspective is helpful in order to recognize this fact.
2. Being explicit about the e-service specification is important because the service provider should be clear about the benefits and the results that the customer would get from the e-service and the commitments made by the service provider.
3. Analyzing the social relationships is important because: (a) it is important to clarify the commitments made by the service provider and the customers when they use the e-service, and what they should expect of each other using the IT system; (b) it is also important to be clear about what social roles the human takes on in using the IT system. It is not the role of the human being as a user of the IT system that is important when e-services are analyzed, it is their roles as social actors that are focused.
4. To analyze different use situations, and not only the interactive use situation, is important in order to make the IT system as efficient and useful for all involved parties. E-services should not only be seen as a means for making the work of the service provider more efficient.

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