

# The Pragmatic Language Functionality of Information Systems

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**Abstract.** Computer systems are often viewed as tools, for example, in HCI-research the User-Tool-Task model is used. According to this model usability is something that is created in a use situation where the user, tool and task are brought together. The idea is that the system (the tool) is equipped with a functionality that can be used by the user to accomplish his tasks. However, a problem with the User- Tool-Task model is that the functionality and the use of the system is described in quite a subjective and instrumental way. The ultimate goal of the system is to contribute to the satisfaction, effectiveness and efficiency of the user(s). These are of course important aspects when we analyse the use of computer systems, but it is still a too subjective and instrumental way of looking at it, especially if we focus on information systems (IS). The purpose of the paper is therefore to discuss the notion of the functionality of IS, and to argue that there is a pragmatic language functionality of IS which is social in its character.

## 1 A tool perspective of computer systems

The tool perspective of computer systems is something that is frequently used in the computer and information science area. The User-Tool-Task model [1, 2] is, for example, a model which is frequently used in HCI-research (Human Computer Interaction) to discuss the concept of usability [3]. According to this model usability is something that is created in a *use situation* where the *user*, *tool* and *task* are brought together. The tool is the computer, together with the functionality of the system. The idea is that there is a functionality built into the system (the tool) which can be used by the user to accomplish his tasks. Allwood [4] claims that the system is *functional* when it contains the right functions, and that *usability* is the features that make the functionality of the system usable in a use situation. This implies that the functionality of the tool must be adjusted to the work activities of the user, and it must be easy for the user to learn how to use it [2, 5]. The tool should also contribute to the effectiveness and efficiency of the user [6, 7], something that Nielsen [8] refers to as *usefulness* (see figure 1 below).

I agree with the idea that a computer system can be viewed as a tool, equipped with an instrumental functionality. However, there are some limitations with the conventional view

of usability [see e.g. 9, 10], especially if we focus on information systems (IS). One of these limitations is that the discussion of usability is focused on the interaction between the user and the computer system [4]. The focus is on the relationship and the interface between the subject (user) and the object (tool), and not on human communication and the inter-subjective relationship between senders and interpreters (receivers) of information using IS. In the conventional view of usability the ultimate goal with the use of the computer system is to contribute to the satisfaction, effectiveness and efficiency of the user which are criteria defined in this way in the ISO 9241-11 [11] standard:

*Effectiveness*: the accuracy and completeness with which the users achieve certain goals.

*Efficiency*: the relation between effectiveness (as defined above) and the resources expended in achieving them.

*Satisfaction*: the user's comfort with and positive attitudes towards the use of the system.

These are of course important aspects to consider when we analyse computer use but it is still a too subjective and instrumental way of looking at it, because IS are also social tools used in a context of social interaction where at least two people interact. The focus of the single user has also been criticised by researchers [see e.g. 9] in other research fields related to HCI e.g. Computer-Supported Cooperative Work (CSCW), who represent a social and organisational view of computer use.

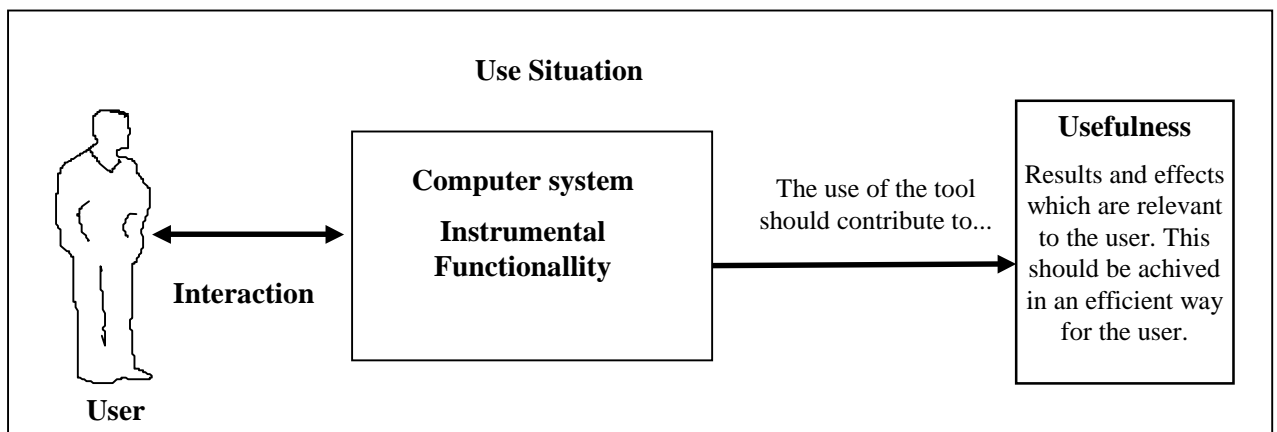


Figure 1 A tool perspective of computer systems

## 2 A tool perspective of language

In section 1 above the notion of a computer system as a tool was described. In this section the *notion of language* will be described as a *social tool equipped with a pragmatic functionality* used for human communication and social interaction. The concept of language means, in this context, a system of signs used for human communication [12], i.e. we are talking about language in general and not specific languages. Pragmatic function refers to the *use of language and messages* in communicative situations. Such functions are also called communicative functions [13].

### 2.1 Speech act theory

In speech act theory language is considered as a tool for performing speech acts in a social interaction context [see 14, 15, 16, 17, 18, 19]. This can be illustrated by a classroom situation with a teacher and a number of students where the teacher performs the two speech acts listed below:

1. I **assert** that the **window** is **closed** (The teacher is stating this fact in front of the class).
2. I **request** that you **open** the **window** (The request is addressed to the student sitting next to the window).

It is important to notice that speech acts are not only used for stating facts, as in the first case. Speech acts are also used for co-ordinating subsequent acts in the social interaction context, as in the second case, where the speech act is used for regulating the opening of the window. This implies that the meaning of speech acts has to be related to a social interaction context of actors, facts, intentions, commitments, norms, rules, social relationships and subsequent actions.

In speech act theory [14, 15, 18] a distinction is made between the illocutionary component of the speech act and the propositional (information) content. If we look at the information contents of the two speech acts above, we can see that they are used for identifying and describing an *object (the window)* and to assign the object an *attribute (the attribute closed in the first case, and open in the second)*. This is different to the illocutionary component which is expressed with the illocutionary verbs *request* and *assert*.

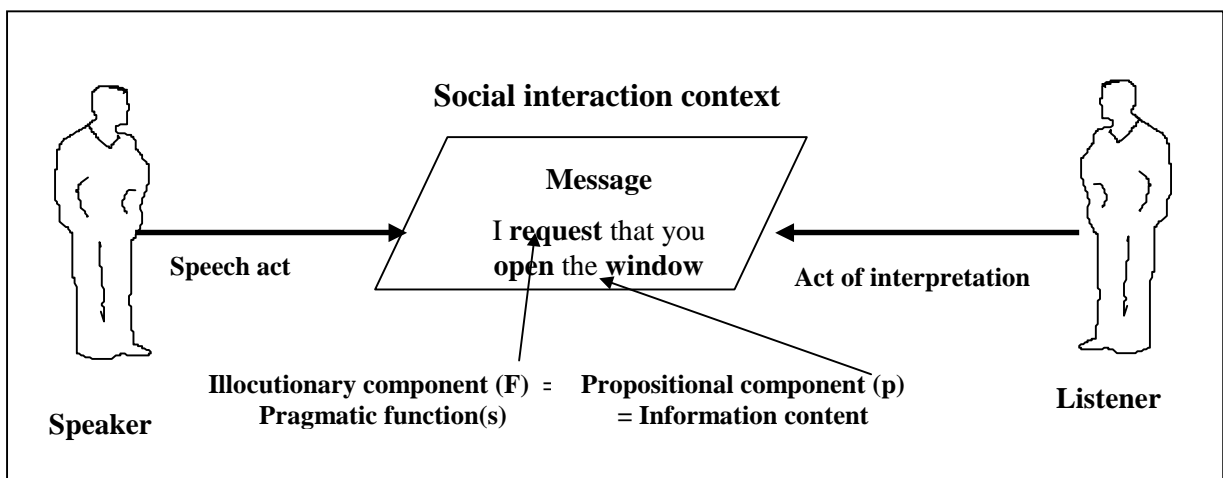


Figure 2 In speech act theory is language considered as a tool equipped with a pragmatic language functionality which can be used for performing speech acts.

The illocutionary component (designated with F in the figure above) specifies the pragmatic function(s) of the speech act, and how the information content (designated with p in the figure above) should be used. This implies that language is considered as a tool equipped with a pragmatic language functionality, and as a consequence the notion of this functionality has been analysed in detail in speech act theory. The analyses have been focused on defining general pragmatic functions of language and how they should be used in a successful way in a social interaction context.

Austin [14] was the language philosopher who invented speech act theory, but two of the most famous versions have been developed by Searle and Habermas and these versions will be presented below.

## 2.2 Searle's version of speech act theory

Searle [16] has presented a version of speech act theory where he has developed a taxonomy of speech acts, which describes a taxonomy of general pragmatic functions of language, and how they work.

### *General pragmatic functions of language*

Searle's aim with the taxonomy is to classify the general pragmatic functions that all languages are equipped with. According to Searle there are five pragmatic functions which correspond to five classes of speech acts.

1. Assertives. The pragmatic function is to commit the speaker to the truth of the expressed proposition.  
For example, "I **assert** that the window is open".
2. Directives. The pragmatic function is an attempt by the speaker to make the listener perform an act.  
For example, "I **request** that you open the window".
3. Commissives. The pragmatic function is that the speaker commits himself to perform an act.  
For example, "I **promise** to open the window".
4. Expressives. The pragmatic function is to express the speaker's psychological state about a state of affairs specified in the propositional content of the speech act.  
For example, "I **hate** open windows".
5. Declaratives. The pragmatic function implies that a successful performance guarantees that the propositional content of the speech act corresponds to the world.  
For example, "I **appoint** you as window opener".

According to Searle different types of speech acts can be classified using this taxonomy. But this does not mean that only one pragmatic function is used at a time when a speech act is performed. Searle [15, p. 70] writes "..... *it is important to realize that one and the same utterance may constitute the performance of several different illocutionary*

*acts*". This implies that in one single speech act a number of pragmatic functions can be used.

### *Successful communication according to Searle*

Speech acts are used for communication in a social interaction context, and Searle [15, p. 47] has analysed how the speaker should act in order to perform speech acts in a successful way. This implies that Searle [15] has analysed general presuppositions and rules for how the pragmatic functions of language should be used in a successful way, and he has presented the following general rules as a result of this analyses:

- Propositional content rule.
- Preparaty rule.
- Sincerity rule.
- Essential rule.

Searle claims that a speaker who wants to succeed with his speech act has to comply to these rules. In section 3 I will describe these rules in more detail and show that it is important to comply with these rules when we use information systems.

### **2.3 Habermas's version of speech act theory (Formal pragmatics)**

Habermas [18, 19] has presented a version of speech act theory called formal pragmatics Habermas [18]. He has also, like Searle, developed a taxonomy of general pragmatic functions of language and general rules for how these functions should be used.

### *General pragmatic functions of language according to Habermas*

Habermas [19] taxonomy of general pragmatic functions of language is based on a critique of the classification of Searle. This implies that Habermas is influenced by Searle, although he comes up with another taxonomy which consists of four major classes:

1. Constatives. The pragmatic function is to present states of affairs.  
For example, "I assert that the window is open".
2. Expressives. The pragmatic function is to present something from the subjective world of the speaker, e.g. a feeling, wish or belief.  
For example, "I hate open windows".
3. Regulatives. The pragmatic function is to regulate the interaction between the actors in the social world.  
For example, "I request that you open the window".

4. Imperatives<sup>1</sup>. The pragmatic function used by the speaker to refer to a desired state and raise a claim for power in such a way that the listener would bring about that state.

For example, "I order you to open the window !".

According to Habermas can different types of speech acts be classified using this taxonomy. However in a speech act are several of these functions used, although one of these functions are emphasised.

### *Successful communication according to Habermas*

Habermas claims that the main purpose of formal pragmatics is to analyse universal presuppositions and rules for successful communication. The universal rules behind formal pragmatics are that a speaker who wants to create a mutual understanding with the listener uses the pragmatic functions of language to raise validity claims:

1. Comprehensibility

The claim is raised by all speech acts because the sentence used in the speech act should be comprehensible.

2. Sincerity.

The claim is raised with the help of the expressive language function, e.g. "I hate open windows". In this case it is the sincerity of the expressed feeling which is emphasised.

3. Truth.

The claim for truth is raised with the help of the constative function, e.g. "I assert that the window is open". In this case it is the truth of the proposition which is emphasised.

4. Existential presuppositions or Conditions of satisfaction

The claim that certain existential presuppositions exist, or conditions of satisfaction should be met, is emphasised and raised by the regulative language function [see Habermas, 19 p. 306], e.g. "I request that you open the window". In this case it is not the truth of the proposition which is emphasised, instead it is the existential presupposition that it is possible to perform the material act described in the proposition which is claimed [20].

5. Normative rightness.

The claim for normative rightness is raised with the help of the regulative function, e.g. "I request that you open the window". In this case it is the claim that the speaker has the right to ask the listener to open the window which is emphasised.

According to Habermas the speech act will succeed if the speaker is able to raise these validity claims in a way that the listener accepts. Successful communication implies that the listener must both *comprehend* and *accept* the speech act, i.e. the speaker and listener must

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<sup>1</sup> Habermas has later on assimilated the imperatives into the class of regulatives. Habermas [21] writes:

*"My mistake was to treat this limit case of a pure imperative backed up by power as a class of speech acts in its own right.....I now regard simple or normatively nonauthorized imperatives as a parasitical case. ....all imperatives to which we attribute an illocutionary force can be analysed according to the model of normatively authorised imperatives. What I wrongly took to be a difference in category now shrinks to a difference in degree."*

agree about the speech act. The listener has fully understood the speech act when he knows under which conditions the speech act is acceptable. Knowing these conditions also implies that the listener is given the opportunity to control and criticise the speech act based on the validity claims. The acceptance of the speech act is based on the **good reasons that the speaker can provide in a discourse**, or else on a **trustworthy warranty** that he could provide such reasons if it is necessary [21, p. 198]. In section 3 I will show that it is important to comply with these rules when IS are used.

### 2.4 Communication model

In this section I will present a communication model based on Searle’s and Habermas’s versions of speech act theory. The idea of Habermas’s and Searle’s versions of speech act theory there is that language is equipped with general pragmatic functions which are used when speech acts are performed in a social interaction context. The difference between Searle’s and Habermas’s versions of speech act theory is that Habermas has made a more interactionist analysis of the use of the pragmatic functions of language than Searle.

I claim, in line with Searle [22, p. 90], that the two versions can be seen as complementing each other. In order to analyse human communication it is important to focus both on the speaker, which is the focus of Searle, and on the listener, which is the focus of Habermas. Searle’s intent is to describe a number of basic rules which the speaker has to comply with if he wants to succeed with his speech act. Habermas has merely extended this analysis by focusing more on the listener’s interpretation and evaluation of the communication act and the message produced. The communication model can be illustrated by the figure below, and I will use this model to discuss the notion of IS and the pragmatic language functionality of IS in section 3.

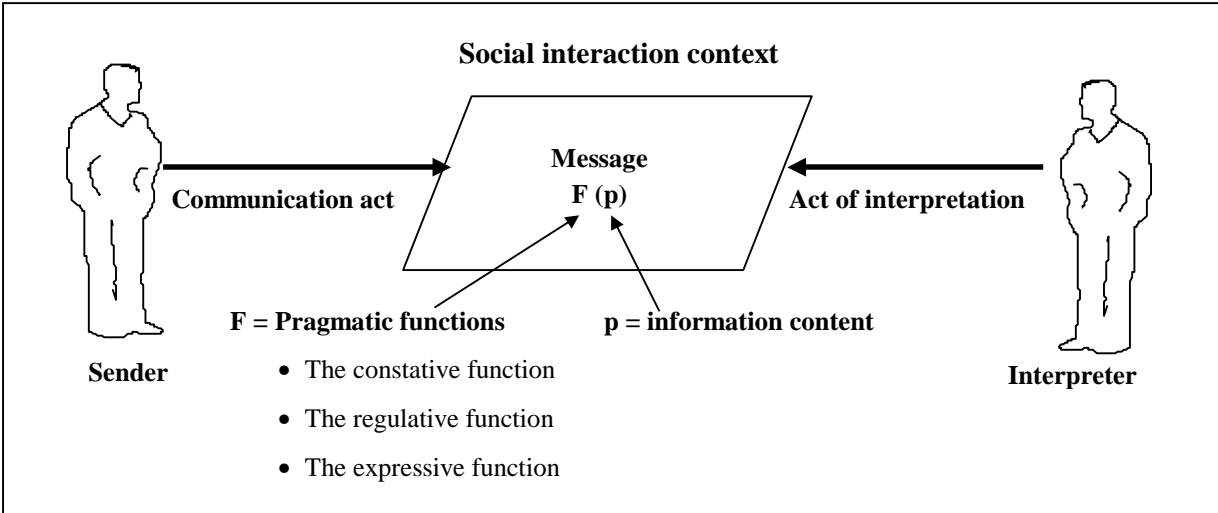


Figure 3 Communication model

The model in figure 3 shows that the communication act is performed in a social interaction context where two actors, the sender and interpreter interact. The reason why I use the concept *communication act*, instead of speech act, is that communication can be mediated by other media than spoken language, e.g. paper documents or electronic messages. I also use the concepts sender (not speaker) and interpreter (not listener or receiver) for the roles of the actors who perform the communication. The sender is the one who performs the

communication act and the interpreter is the actor who interprets and evaluates the message. The communication act results in a message which is constituted by *a propositional information content (p)*, and an *illocutionary component F*, indicating the main pragmatic functions used. There are three types of pragmatic functions [20]:

1. The constative function which is used for presentation of facts.
2. The regulative function which is used to create social facts and to regulate social interaction and the regulative function can be subdivided into the functions:
  - Declarative
  - Commissive
  - Directive
3. The expressive function which is used to express subjective intentions, feelings, opinions and attitudes.

### 3 The pragmatic language functionality of a Sales Support System

In section 1 I criticised the conventional perspective of usability for describing the functionality and use of IS in a too subjective and instrumental way. According to my opinion it is important to recognise that people who use IS to perform their work tasks are communicating with each other in a social interaction context. This is also emphasised by a number of researchers who have used speech act theory in information systems research [see e.g. 23, 24, 25, 26, 27, 28, 29]. As a consequence I will show how IS can be viewed as a social tool.

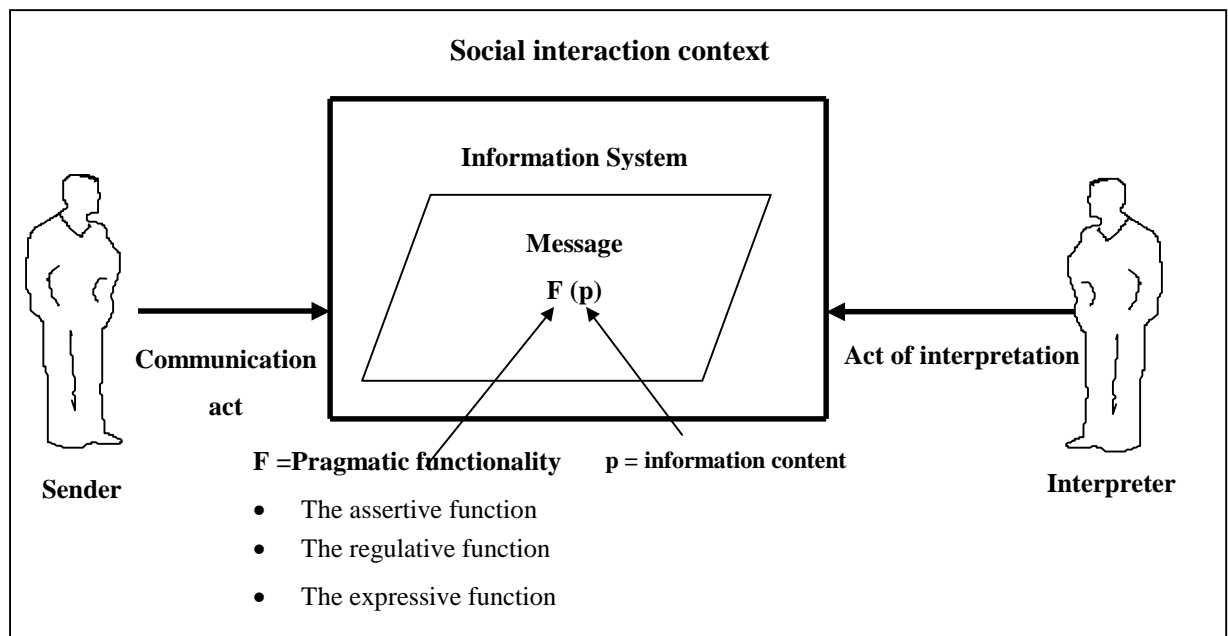


Figure 4 An information system is a social tool equipped with a pragmatic language functionality used for human communication in a social interaction context

Figure 4 above illustrates that IS can be viewed as social tool equipped with a *pragmatic language functionality* used for human communication in a social interaction context. This implies that if we want to describe the functionality of IS we cannot only describe it in an instrumental way, we also have to describe how it works in a



communicative way. The notion of language means, in this context, a system of signs and symbols used for human communication [30]. This implies that the language used in the IS can be represented in a number of ways, e.g. by written and spoken text, pictures, graphics, pictures and icons.

To describe the functionality and the use of IS in a communicative way we can look at a sales support system which is used in a social interaction context where actors buy and sell cars. The description of the sales support system is based on a case study which was performed at a car company with a number of sales offices [20, 33]. The *primary users* of the sales support system are the car dealers who use the system to perform their work tasks, which implies that they use the system to communicate with the customers.

### 3.1 The use of the regulative language function

An important message which is communicated with the help of the sales support system is the business offer described in the figure below.

<b>Offer</b>	
License number:	ABC 301
Model:	Volvo 850 GLT 2,5. Front-wheel drive, 4 doors.
Engine:	Petrol. Catalytic. 5-cylinder. Transverse. 170 h.p./125 kW B5254F
Gear Box:	Manual 5-gear. M56.
Color:	Polar white nr:189
Extra Equipment:	S-Package: Automatic climate control + Cruise control.
Total:	241,000 SEK.

Figure 5 A business offer

If we use the communication model in figure 4 to analyse the communication act performed and the message produced, we can maintain that the sender of the business offer is the car dealer who performs the communication act with the help of the system (this is illustrated with the help of figure 6 below). The system is used at the car dealer's office, and the car dealer can communicate the business offer to the customer either by presenting the offer on the computer screen, or printing out a paper document.

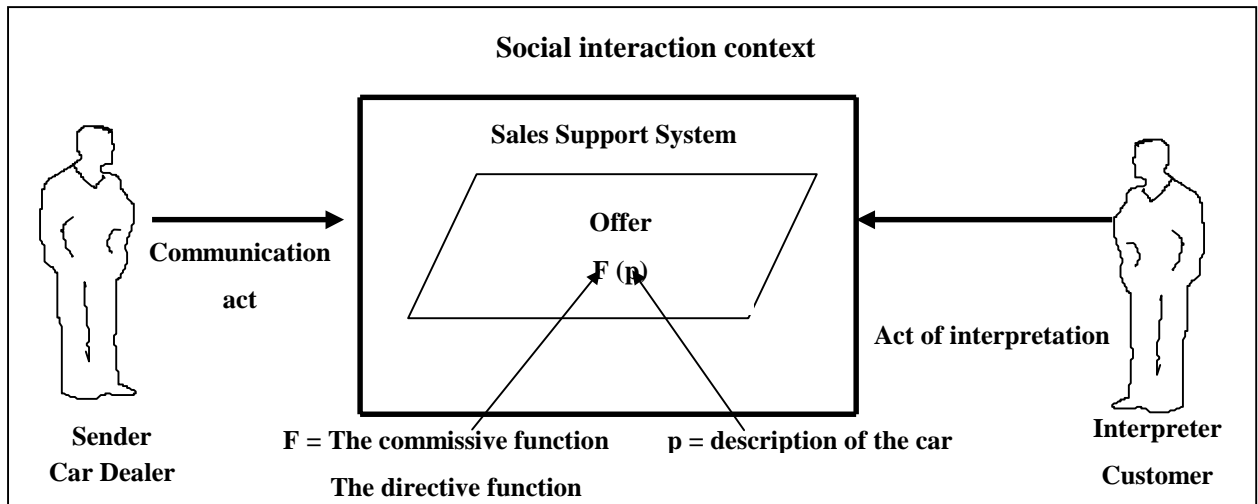


Figure 6 The sales support system is used for communicating a business offer

The information content (p) of the messages identifies and describes the attributes of the car offered, and if we analyse the pragmatic functions (F) of the message we can maintain that two subfunctions of the regulative language function are used: the commissive and directive functions [31, 32]. This implies that it is important that these functions are used in the right way by the sender, and implemented in the right way in the system. The rules for using the commissive and directive functions have been specified by Searle and are described in the table below<sup>2</sup>.

Table 1. The rules for using the commissive and directive function, according to Searle.

	<b>Commissive</b>	<b>Directive</b>
<b>Essential rule</b>	Counts as an undertaking of an obligation.	Counts as an attempt to get the listener to perform the action A.
<b>Sincerity rule</b>	Speaker intends to do A.	Speaker wants listener to do A.
<b>Preparaty rule</b>	1) Listener would prefer speaker doing A to his not doing A, and speaker believes listener would prefer speaker doing A to his not doing A. 2) It should not be obvious to both speaker and listener that speaker would do A in the normal case of events.	1) Listener is able to do A and speaker believes that listener is able to do A. 2) It is not obvious to both speaker and listener that the listener will do A in the normal course of events in his own accord.

These rules can be used to analyse the business offer in the social interaction context where it is used.

<sup>2</sup> Searle has also specified the propositional content rule. This rule is focused upon the propositional component of the speech act and not on the illocutionary component. This is the reason why this rule is excluded in the analyses.

The *essential rules* imply that the offer is simultaneously used for:

- Undertaking an obligation (see the essential rule for commissives), which means, in this case, that a commitment is created on the part of the car dealer (and the car company) *to sell the car under the conditions specified in the business offer*, e.g. not to sell the car at a price higher than described in the business offer.
- Making the customer perform a subsequent act A (see the essential rule for directives). This means that the car dealer tries to make the customer *purchase the car*.

The *sincerity rules* imply:

- That the car dealer should have an *honest intention* to sell under the conditions specified in the offer (see the sincerity rule for commissives).
- That the car dealer should have a *sincere will* that the customer should purchase the car (see the sincerity rule for directives).

The *preparaty rules*:

- The first sentence (1) of the preparatory rules for the *commissive function* implies that the offer only should be performed if the customer (the listener) would prefer the car dealer (the speaker) to sell the car. The second sentence (2) means that an explicit offer should be issued only if it is not obvious to both the car dealer and customer that the car dealer would sell the car in the normal case of events. It is the first sentence (1) which is the most relevant in this context, because it implies that the car dealer should not offer to sell a car that the customer is not really interested in buying. The second sentence (2) is of less relevance in this context, because it can be of interest that the car dealer makes an explicit offer although it is obvious that the car dealer would sell the car in the normal case.
- The first sentence (1) of the preparaty rule for the *directive function* implies that car dealer should only make the offer if he thinks that the customer (listener) has the ability to buy and pay for the car offered. The second sentence (2) implies that the offer should be performed if it is not obvious to both the car dealer and customer that the customer will make the purchase of his own accord. This means that the offer can be used to influence the customer to make the purchase (see sentence 2), although the car dealer should not offer a car that the customer cannot buy (see sentence 1).

It is important that the car dealer, together with the system, will comply with the rules described above because the customer uses the business offer when he makes his purchase decision. This implies that he has to trust the sincerity of the obligation made on behalf of the car dealer, and that the car dealer does not use the system to force and mislead the customer into purchasing the car. As a consequence it must be possible for the customer to know who is responsible for the commitment made, because he must be sure that the obligation made on behalf of the car dealer (and car company) could be fulfilled. It should also be possible for the customer to negotiate and criticise the offer. The criticism can, for example, concern:

- the fairness, e.g. that the price of the car is not fair (this criticism concerns the claim for normative rightness see section 2.3).
- the qualities of the car offered, e.g. if it really will satisfy the needs of the customer (this criticism concern the existential presuppositions of the communication act see section 2.3).

- the honesty and sincerity of the offer, e.g. that the car dealer is trying to mislead the customer (this criticism concern the sincerity claim see section 2.3)

Besides the commissive and directive functions the *expressive function* is also used in the message. Although the main purpose of the message is not to express the sender's subjective intention, an intention and a will is still expressed.

### **3.2 The car dealers and customers use of the pragmatic language functionality**

In section 3.1 above I have shown that the sales support system is used by the car dealers and customers, in their communicative roles as senders and interpreters of messages. The analyses also show that the concept of IS includes all messages communicated with the help of the computer, no matter if these messages are communicated electronically or on paper. The analyses of the business offer show that the pragmatic language functionality has a social character and is dependent on a social interaction context, on actors, actions, intentions, facts, expectations, social relationships, commitments, rules, conventions and common tasks which have to be co-ordinated. The general rules for using this functionality, specified by Searle and Habermas, describe general rules for social conduct when people communicate and interact. This implies that in order to analyse the functionality and use of IS it is not enough to analyse it from an instrumental and subjective point-of-view, we also have to analyse how the system is used in a communicative way. This was also experienced in a case study where the sales support system was evaluated [33, 34]<sup>3</sup>.

#### *The car dealers use of the system*

The car dealers use of the system can be described from a traditional usability perspective. This implies that the car dealers used the instrumental functionality of the sales support system in order to:

- navigate through menus;
- push buttons;
- make calculations;
- search for and register information;
- receive and print messages.

The car dealers were also very satisfied with the system and maintained that it contributed to their efficiency and effectiveness.

But the car dealers also used the system in a communicative way. They communicated product and business offers, and purchase contracts to the customers both with electronic messages and printed documents. This implies that they used the pragmatic language functions. The car dealers claimed that the system contributed to the comprehensibility, trustworthiness and social reliability of the car deal. The car dealers claimed that the system (including the paper documents) made it more easy to explain the business offer to the customers. The car dealers also claimed that the business offer, and the car deal, became more sincere because they could communicate more reliable and objective information to the customers.

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<sup>3</sup> A more detailed presentation of the case study is presented in these reports.

### *The customers use of the system*

The customers did not use the system to push any buttons, calculate, register or store information, however they used the system but in a communicative way. They used the printed documents, and several customers also used information and messages which were communicated to them on the computer screen.

Most of the customers were satisfied with how the system was used. What is of special interest was that the customers claimed that the printed documents, and especially the printed business offer, was the most valuable part of the system. The customers said that the system contributed to the comprehensibility and trustworthiness and the social reliability of the car deal. The customers also claimed that the system made it easier to control and criticise the business offer. However some of the customers maintained that the system made the car deal less flexible because they felt that the business offer was definitive and not negotiable.

## **5 The notion of the functionality of information systems**

The purpose of the paper has been to discuss the notion of the *functionality* of IS and the use of this functionality, and according to my opinion there are at least two aspects: the *instrumental functionality* and *pragmatic language functionality*, which have to be considered. These two aspects are illustrated in the figure below.

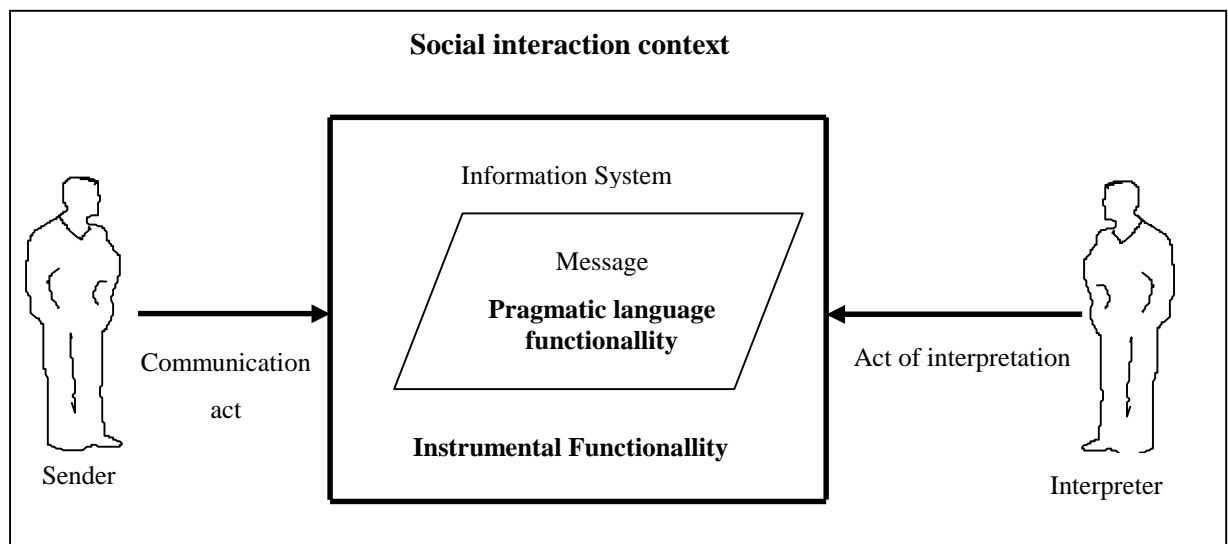


Figure 7. Two aspects of the functionality of information systems

### **The instrumental functionality**

The first aspect concerns the instrumental functionality of the system. To use this functionality the user must know which menus to chose and buttons to push in order to use the system to make calculations, to search for and store information, to send, receive and print messages and so forth.

## **The pragmatic language functionality**

The second aspect concerns the pragmatic language functionality. To use this functionality the senders must learn how to use the constative, regulative and expressive language functions with the help of the system in a social interaction context. The senders use this functionality when they report, offer, order, etc., something with the help of the system. In order to analyse how the pragmatic functions are used we have also to consider the interpreters who use the messages produced. It is important to consider how the interpreters are able to interpret, control and criticise the communication acts performed and messages produced by the IS.

*The instrumental and pragmatic language functionality is used simultaneously*

To analyse the functionality of IS in these two dimensions does not mean that the functionality is used separately. When the senders use IS to perform communication acts the instrumental functionality and the pragmatic language functionality are used simultaneously. For example, a car dealer who is navigating through menus, pushing buttons, and registering information on the computer screen in order to present a business offer to the customer, is at same time committing himself to the undertaking of an obligation to sell the car under the conditions specified in the information content of the offer and trying to make the customer buy the car.

## **6 Conclusions**

The conventional perspective of usability, described in section 1 above, is focused on the actor as a user of a computer system. The focus is on the relationship and the interface between the subject (user) and the object (tool). However the analyses in the paper show that it is important to emphasise that IS are used for communication between senders and interpreters which implies a social (subject-object-subject) interaction. It also implies a focus on the use messages and the pragmatic functions of language. To emphasise that IS is equipped with a pragmatic language functionality can help us to realise that IS are not only instrumental tools. They are also social tools used in a social interaction context of actors, intentions, facts, expectations, social relationships, commitments, obligations, rules, values and common tasks that have to be co-ordinated.

To recognise that IS are equipped with a pragmatic language functionality implies that IS should be designed in a such a way that the senders and interpreters who communicate with the help of IS can use this functionality in the right way. This means that IS should support the senders in following the general rules defined by Searle. IS should also support the interpreters in interpreting and evaluating the validity of the communication, in line with the rules presented by Habermas, which implies that it should be possible to control and criticise the validity of the communication. The general rules defined by Searle and Habermas have of course to be understood and adjusted to the actual social interaction context, as I have illustrated in section 3.1.

The general rules and the validity claims can also serve as a foundation for an analyses of general criteria that could be used for evaluating the quality and use of information systems [34]. In the conventional user perspective the ultimate goal with the use of the computer system is to contribute to the satisfaction, effectiveness and efficiency of the (primary) user(s). These are of course important aspects when we analyse the use of

IS, and both the instrumental functionality and the pragmatic language functionality must contribute to these usability criteria. However, the analyses of the pragmatic language functionality show that other criteria like sincerity, normative rightness, truth, trust and social reliability are important when we evaluate the use of these functions, and these criteria can also be in conflict with the satisfaction, efficiency and effectiveness criteria. To communicate a message which is true can at the same time be painful, and make the users feel very dissatisfied. Furthermore, to be dishonest (i.e. not to be sincere and truthful) can sometimes be very efficient. For example, a car dealer who wants to sell a car can mislead a customer with the communication performed with the help of the system, still he can accomplish his work task in a very efficient way.

To focus more on the social interaction context and to realise that we have to complement the usability criteria: satisfaction, efficiency and effectiveness with the criteria described above, should affect the way we evaluate the use of IS, and help us to realise that it is not enough to only consider the primary users of the systems (the car dealers in the case of the sales support system), when we evaluate the use of IS.

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