SMALL REFLECTION ON THE CONCEPT OF IMPLICIT IN INFORMATION SYSTEMS

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Abstract:

The aim of this paper is to provide a reflection about the concept of implicit in Information Systems with a particular focus on those which aim to enhance knowledge circulation and management within an organization. Reflections are based on a case concerning a prototyped Information System which was tested in several Citizen-Relationship-Offices (CRO) within a European Project in 2005. I will draw on the work on conversations of the linguist and philosopher Paul Grice showing how Conversational maxims help to understand problems of coordination, communication and shared understanding which can emerge as an effect of the installation of a new information system in a public organization. After an introduction of Grice’s conversational principles, the technology and the site in analysis, the concept of implicit will be depicted and used in order to analyze and understand a small but radical difference in the practice of knowledge validation before and after the new Information System’s introduction. New focuses of attention for both practitioners and researchers will be discussed at the end.

Keywords: implicit, information systems, interaction, accountability, knowledge validation
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1 The concept of implicit

In his work on conversation, Grice (1975, 1981) proposes that participants in conversation understand the following general "Cooperative Principle" to be in force: "Make your conversational contribution such as is required, at the stage, at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged". Such principle brings Grice to state his famous four maxims of communication (Quantity, Quality, Relation and Manner).

I. Maxims of Quantity: 1. Make your contribution as informative as is required (for the current purposes of the exchange). 2. Do not make your contribution more informative than is required.
II. **Maxims of Quality**: 1. Try to make your contribution one that is true. 1. Do not say what you believe to be false. 2. Do not say that for which you lack adequate evidence

III. **Maxim of Relation**: Be relevant.


According to Grice, the significance of an utterance includes both what is said (the explicit) and what is implicated (the implicit). So, for instance, taken the utterance *the French king is bald* the fact that France has a king is implicated (implicit).

In this way, Grice distinguishes between the proposition expressed from the proposition implied, or the "implicature". Similarly, when your everyday newspaper-seller gives you the rest by simply holding it out saying goodbye s/he implies: ‘…*and this is the rest and I believe it is correct*’. Such propositions, which would violate Grice’s maxims, remain implicit in the interaction between you and your newspaper-seller. In the same way, when you provide an answer to a question you do not violate Grice’s maxims by adding: ‘…*and I believe what I have answered is true*’ since that is implicit in the very act of providing an answer. Implicatures and violations of Grice’s maxims are always present in everyday conversations and the balance with what is explicit and what is implicit continuously guide and stabilize the interaction. It is important to note that Grice did not say that conversations follow these maxims, but that cooperative conversation should and that a violation of a maxims has always to be seen as informative since it always implies something unsaid (as in an insinuation).

A Citizen Relationship office, as any other public office, is based on the interaction with the citizen and the providing of a service. In this case, a C.R.O is an organization which, among many other things, delivers information to citizens through a front office where work practices largely rely on conversations. We have learned that in a conversation, proposition expressed and proposition implied in the providing of an answer may play a relevant role.
2 The information systems

Front-Talk\(^1\) (FT) is a prototype of an information platform for the support of front desk employees in public office at different level (nation, region and town). FT is a high flexible information system which merges speech recognition and semantic search engine and provides a real-time support for the employee involved in a citizen problem solving. During the interaction between employee and citizen, FT records (sniffs) the real occurring conversation and transforms it into a text. Then it selects some relevant keywords in the text and uses these as query for the semantic search engine. In real time, the engine provides several contextual suggestions according to citizen’s questions and the current conversation at the front desk and it displays them on the screen.

The first time a new question is asked at the front desk by a citizen, Employees can whether to select one of the answers suggested by the system or to provide a new answer to their own (by dictating or typing it) which will have to be integrated with the system (with a prior pf a validation workflow). In the latter case, such new entered information will be validated by the system through a validation workflow which involves a service manager (usually a domain expert in the back-office). At the end of each day, the service manager can accept, refuse or integrate such suggestions through a back-office side of the FT where special validation functions are located. Since s/he is an expert, the service manager become the one who decides if a new introduced suggestion coming from the front office can become part of not of the information system’s knowledge base. In order to do this s/he has to push a button which validates the new piece of information and saves it in the system’s database. In this way, a body of relevant and trustable (since validated by an expert) knowledge can grow according to front office employees’ suggestions and service manager’s validation: as soon as a front office employee will receive a similar question by a citizen the system will provide that validated suggestion too.

Both the validation workflow and the service manager’s role become necessary actors for TF’s success and exploitation and for the building and management of a knowledge base.

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\(^1\) Front-talk is a ficious name i use here for confidential reasons.
3 The organization

The Citizens Relationship Office where FrontTalk has been installed and tested for half a year is placed in a Tuscan small city. The office is composed by six front-office employees, the major and its staff composed by two secretaries. Dozens of citizens come regularly each day. FT was installed and connected to the previous information systems in a way that it immediately started to work by indexing already existing database. Unfortunately, the pilot site showed an unpredictable anomaly in its internal organization (probably due to the small size of the office). The figure of the service manager (a domain expert required for FT’s validation workflow) was not present in the office and back office major’s secretaries did not have the required skills, knowledge and not even the contractual duties to act as validators for the creation of the knowledge base. This sudden problem was solved by asking each employee to act as service managers too. In this way, each employee was authorized for the use of the back side of the platform where validation tools were supposed to be used by a system manager. According to this, when an employee provides a new suggestions, s/he not only have to insert it into the system by dictating or typing but also have to validate it as service manager in order to save it into the systems as a new correct and trustable information\(^2\). Unfortunately, after a few days the employees stopped to use the systems and rebel against the validation process. What they were complain was that they did not feel enough accountable for considering themselves official validators for the knowledge base. – *This is not my responsibility* – said one of them – *I am not paid for this*…- said another.

4 Discussion

According to deep interviews with front-office employees, trust issues toward citizens are one of the most relevant concern in their activity.

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\(^2\) Until suggestions coming from the front office are not validated by a service manager they remain vacant information and do not take part to the knowledge base.
If I do not know an answer I can ask a colleague, I can use the computer or check some papery folders we still have but I always manage to be sure of what I am saying…

If asked if their answers to citizens has to be considered 100% trustable, most of them laugh since they always manage to provide a correct information.

Well, we are in a public office! If i cannot really answer to a citizen, I will sent him/her to another office or I just take a note of it and call him/her back as soon i will know…but it never happen...

Clearly enough, front office employee always imply in their answers that they know what the answer is and that they make sure that the answer is true and correct.

5 Redefinition of the problem

Employees display a high sense of responsibility toward the answers they provide to citizens and always manage to find a correct and complete answer: they personally feel responsible for the provided answers and always share with colleagues in the office. In the site I have observed, the accumulation of new knowledge was smoothly performed even in the absence of a service manager who can act as a domain expert in case of uncertainties. More than being official, formal and public, validation of knowledge seems to be a by-product of the interaction among front office employees, their colleagues and citizens.

The introduction of the information systems and the fact that its design implies a service manager involved in a formal validation workflow radically and suddenly changed this aspect. The introduction of the new information systems has displaced some implicatures from being verbally implicit to be technologically explicit. As in a redundant conversation, the act of self-validation consisting in logging in as validator and pushing the validation button violates Grice’s maxims as to say: …X is the answer, I (name) am responsible for this answer and I believe X is true now and ever unless possible changes…
The fact that each employee has to personally log in with service manager’s name and password renders publicly individual the responsibility for any new information saved into the system. The act of validation is then objectified in a system function (namely a validation button) where explicitly and irreversibly the employees input a new piece of information and, under his/her name, save it as valid. In this way, the accountability toward citizens (which we have seen is a serious concern for the front office employee) move from being implicit and distributed among front office employees (also meaning anonymous) to being explicit and publicly individual (through an explicit, irreversible and personal validation process). What was grounded and based on personal and face to face conversation (the employee and the citizen), now become explicit, public, formalized and irreversible.

This is not a question of being redundant, but rather a question of organizational accountability and the delicate boundaries between what is implicit and what is explicit in every day work’s interactions. Such boundaries have been suddenly moved by the introduction of the new systems and employee has resisted only two days before quitting the use of the systems: – *This is not my responsibility – I am not paid for this*…- keep saying the employees.

6 Conclusion

The aim of the paper was to provide a reading of a socio-technical problem - occurred as an effect of a technological innovation in public administrations - by the use of a linguistic metaphor. Through the metaphor, I suggest to look at any change in the relational circumstances within organizations (in this case public and based on information delivering) in term of what is rendered as explicit and what is left implicit and how such distinction is respected by – for instance - the design and the introduction of a new information system.

The basic assumption – drawing on the conversational metaphor – is that human interaction (verbal or behavioral, with machines or other human) works unless some components are left implicit and that it stop working if such components are rendered explicit. If neglected, this point could jeopardize the success of a new technological

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3 and what is individual and what is collective.
introduction not only in terms of its fitting with organizational structures and requirements but also in term of its acceptance by users (see the concept of hospitality in Ciborra for this point on information systems).
Organizations are articulated and organizational elements are well entangled thanks to the consolidation and the stabilization of routines, procedures, habits and even repeated violations. In the case I have presented, something which was going smooth as long as kept implicit starts to be problematic if - as a consequence of the introduction of an information systems - it become explicit. The introduction of a new information system even the less intrusive (FT for instance procuded no problem in connecting with previously existing database; it didnot asked for particularly expensive technological equipment; and didnot really change the way public employee work) always change some relational circumstances which affect the balance between what is implicit and what is not, what is convenient to keep a such and what not.
To conclude, I believe that conversational cooperative principles can be of help in the design and the introduction of human computer based systems and it may deserve to be further elaborated and explored in information systems and organizations studies.
Bibliography