

Setting the Course and Keeping It

Reflections on User-Orientation and Systems Acquisition in IT Systems in Swedish Health Care

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Abstract. The conclusion in this paper is that information technology projects in the Swedish health care domain could benefit from user-oriented approaches to systems acquisition. I present some examples from my own experiences in the domain and suggest that user-oriented approaches could reduce potential problems in systems acquisition, IT governance and project execution.

1 Introduction

Often it seems usability efforts are not properly applied in the procurement and development of IT systems [6; 5]. In my experience and as I will exemplify in this paper, this holds for the Swedish health care area as well. I will discuss some identified reasons for this and suggest some possible solutions.

In the health care area, a vast number of users – physicians, nurses and administrative staff – use complex IT systems on a daily basis [3]. These systems present a great amount of critical patient data and a great amount of critical patient data is entered into them. It is very important that these systems are highly usable, for obvious reasons.

Still, health care systems in general have many usability problems and it seems that these kinds of issues have often been neglected in the development of health care systems [2]. Users are forced to work with systems that would likely be considered non-usable by many usability professionals, as I – as a usability professional myself – will give some examples of. Problems like complicated interfaces and the non-

compatibility of the many systems that have to be used in parallel cause a substantial increase in overtime hours and stress-related symptoms.

2 Experiences from the health-care domain

The examples and reflections discussed here are mainly based on my experience as a practitioner, not on research results.

2.1 Lack of usability focus

In several systems the user interfaces are unreasonably confusing, which for instance substantially increases both the risk of making errors and the time needed to perform tasks. One example is the variety of non-compatible systems that have to be used in parallel. In a recent project in a major hospital I observed that, in order to transfer a patients lab result from the web-based lab result system to the patients electronic health record, users had to collect the lab result from the lab result system and write it down on a piece of paper and then enter the hand-written data into the electronic health record. A technical issue made it impossible to keep the two systems open at the same time, so copying-pasting was not an option. Instead, users had to log out from the electronic health record in order to open the lab result system and then, when the lab result was noted on the piece of paper, log out of the lab result system and re-login to the electronic health record. This procedure was repeated several times every day.

The question one asks is, of course, why this apparent lack of usability focus has come to exist in a domain where immediate access to correct and unambiguous information is of absolute importance. The answer may well be buried in a mix of inadequate knowledge of how to produce relevant requirements and procurements, and the apparent lack of sufficient IT governance and project execution [1; 4; 8].

2.2 Problems regarding the procurement process

The first issue concerns the procurers. They often have medical background and while they might be very successful in the medical

field and even knowledgeable about procurement processes, they might not have the competence needed to properly identify whether existing IT systems meet the business and user goals, or to translate such goals into a requirement specification for a new IT system.

A recent and noticed case could serve as an example of this. Uppsala County Council based the decision to acquire Cambio Cosmic on the fact that another county council had recently acquired that particular system. When the system was delivered and introduced, it turned out that it did not at all correspond to the expected business effects or the needs and goals of the users. As a result, the system was left unused. The decision to acquire the system was clearly not based on identified business and user goals and the supplier in this case merely delivered what they had been asked to deliver (aside from a number of technical problems).

There are also numerous cases where decisions have been made based on poor judgement or prestige. In Stockholm County Council, some competitiveness has been noted between care givers, due to the previous decentralized organizational structure. For instance, when Danderyd Hospital acquired the health care system Melior, another hospital within Stockholm County Council – Karolinska Hospital – decided to acquire anything but Melior (eventually BMS). Since then, however, the organization has been centralized, decreasing the risk of such competitiveness.

2.3 Problems regarding IT governance and project execution

The second issue concerns IT governance and project execution. As mentioned earlier, procurers within health care organizations often lack in knowledge regarding business and user goals and how to properly use these in procuring processes or in requirement specification procedures. A more general problem, that needs to be addressed on an IT governance level, is that often such goals are not even identified or considered [7; 6].

Another problem that has been noted, at least in Stockholm County Council, is the very limited transparency of decision-making processes. With transparent IT governance it is well established who is

responsible for a decision, what the decision is and why the decision was made [3]. As mentioned earlier many decisions are based on irrational factors, and in addition to this, there are many cases where the decision-maker is unspecified.

Continuously in IT development, new ideas and questions arise and alternate routes emerge. In these cases decisions have to be made regarding what to incorporate and what to disregard, or what direction to choose in general. Sometimes it can be hard not to make bad decisions, and sometimes bad decisions could easily be avoided but they are not, due to poor judgement or prestige.

3 Discussion

In order to acquire usable IT systems and to avoid making bad or irrational decisions – deliberately or not – when developing them, some means of steering IT projects would be useful.

I suggest that business and user goals could constitute such means. Identifying and defining these goals gives a starting point in the requirement specification phase and means to control the course the project is taking during the development phase. I will restrain from describing methods for identifying and defining business and user goals, however, such methods are thoroughly described in Ottersten & Balic [9] and Markensten [5].

On an IT governance level, it is important to make sure that business and user goals are incorporated in IT projects. In addition to their advantages in the procurement phase and on a project execution level, these tools also contribute to solving the transparency problem. Specified business goals and personas are very evident and easy to distribute within an organization; they clearly communicate the goals in the light of which all decisions should be viewed [6]. Decisions become easier for everyone to evaluate and irrational factors become easier to identify.

On a project execution level, when an issue has to be considered, it needs to be considered in its relation to the business and user goals. For

instance, if a new feature is considered, one needs to investigate if it is coherent with the business goals and if it would help the personas to achieve their goals.

Using business and user goals properly would not solve all, but most likely some, of the problems. Obviously there are deeper issues both in the procurement field and in the IT governance and project execution areas that need further investigation, but I believe a user-oriented method that provides such effective means of controlling and steering IT-projects are useful on both operative and strategic levels, and could help create considerably more useable IT systems for the health care area.

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