RESPONSIBILITY IN ACQUIRING CRITICAL GOVERNMENTAL INFORMATION SYSTEMS: WHOSE FAULT IS FAILURE?

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Abstract

In this paper we aim to show that a responsible party for acquiring critical governmental information systems should be nominated and that the expected consequences must be analysed before the project is started. This is to prevent loss of human life, to enhance well-being, to

secure a democratic process and civil rights and to save resources. Our approach is to increase public participation as well as the participation of different interest groups derived from the critical governmental information system development on enhancing these systems. We use Habermasian discourse to enhance the process of procuring, developing and implementing these systems and apply it to the idea of responsibility towards the society.

Keywords

eGovernment, System Procurement, Responsibility, Habermasian Rational Discourse, Information Systems

1. Introduction

Governmental information systems (eGovernment systems) have been in an increasing development during last few years. As private sector has increased their profits with increased and centralised information systems there has been pressure for the public sector to utilise this same behaviour for the diminished resources allocated to it. Unfortunately, the effectiveness intended has not always been the result. In this paper we concentrate on the governmental information systems defined as critical – their definition, the responsibility around them and the possible ways to improve the procurement, development and implementation of these systems.

The responsible actors in this context must be defined to verify the underlying responsibility in the information systems that can compromise the health, security and wellbeing these kinds of systems should provide. This responsibility, as well as the base functionalities, we argue, can be defined best through a rational Habermasian discourse.

The current status quo, as is shown below, is a situation where the current infrastructure cannot function efficiently, economically nor ethically. Thus we require new ways to determine the functionalities, responsibilities and requirements for the critical governmental information systems guarding the health, safety and wellbeing of the society at large.

2. A critical governmental information system

A critical governmental information system (CGIS), by definition, is an information system developed for governmental needs including data or functionality which is critical in nature to the security or wellbeing of individuals or the society as whole. It is a system where something invaluable can easily be compromised. These kinds of systems include eHealth, eDemocracy, police databases and some information security systems e.g. physical access right control.

Numerous studies show that due to poor eGovernment solutions lives have been lost, for example in case London ambulance due to the new information system ambulances were sent to wrong targets, causing several deaths and injuries (Avison & Torkzadeh 2008, p. 292-293), usage of dysfunctional radiation treatment machines caused at least six deaths (Fleischman 2010) and elections have been compromised numerous times worldwide (Mercuri 2001, p. 13-20, Heimo, Fairweather & Kimppa 2010, Robison 2010). Simultaneously huge amounts of resources (Larsen & Elligsen 2010) are wasted, while the systems are either inoperable or end up being discarded (Wijvertrouwenstemcomputersniet 2007, Verzola 2008, Heimo, Fairweather & Kimppa 2010, Heimo, Hakkala & Kimppa 2012, Koskinen, Heimo & Kimppa 2012). Thus, while developing critical governmental information systems, there has been major problems, in situations where there is little room for error.

3. Responsibility revisited

To verify a secure system a specific party has to be responsible for the system development and upkeep process. That is a job the society as a whole has given to a third party, as not everyone can participate to the process. This *responsible party* has to see to it that the system works as it should.

Four different interest groups can be found in eGovernment system development process: 1) *the government office*, whose task is to formulate the solutions to fulfil the needs of the society, 2) *the producer*, who delivers the requested system, 3) *the end-user group* consisting of people using the system and, 4) *the citizens*, who are the targets of the system usage. Any or all of the groups can overlap.

The power to decide how to design and whether to implement the system lies within the government and the supplier; the user and the target of usage are in weaker positions, for they

have little or no power in designing the system. We agree with Rawls (1997) that any change in the procedure must be to the advantage of the weakest parties. And as with the power to decide for the public comes the responsibility to the public. That responsibility has to be either with the subscriber or the supplier. The responsibility with the supplier lies in fulfilling the requests of the customer, i.e. the governmental office. If this task fails, the supplier is responsible to the authorities for their failure of not fulfilling the requirements agreed upon.

The authorities have a monopoly in supplying certain services like critical eGovernment products. Due to this, they are in the supplier role *in relation* to the citizen. That role brings with it the responsibility of a functioning product. If the system is taken into use the responsibility lies with the last supplier of the system: the government office.

The eGovernment system producer produces a system according to the specifications they receive from the ordering party, i.e. the government office. Even if the product is faulty and does not fulfill the specification, the authorities are responsible to audit the product. The responsibility for showing that a product is faulty, cannot, however rest on the end-user, but the provider or the distributor must provide sufficient proof that the system is safe.

Obviously the people auditing the systems must be accountable for their work and the government office must select a party able to successfully complete the auditing (internal or external). They have to be trained and given the accountability for what methods of auditing are required and how the results have to be interpreted. Either the security of the system itself has to be greater than the previous systems', or, at least the added value the system provides to the citizen must be – together with an adequate level of security – considerable to justify changing systems. A method to gain the necessary skills and specifications is to use a rational discourse, e.g. the Habermasian rational discourse.

4. Requesting reasonable communication – the Habermasian discourse

In this paper the topic is approached from a Habermasian (1992) rational discourse perspective, which denies strategic games so common in current political systems. The Habermasian view is considered an acceptable way to share responsibility and thus justify rationally decided actions in eGovernment procurement.

As mentioned earlier, the current situation is problematic because many governmental actions are commonly lacking the support of the citizens. Reason for that can be that people cannot

be fully active part of political system. In current political system the decision making is moved to different organisations or stakeholder groups which are not in public sphere, like Habermas (1962) was already pointing. There seems to be less and less culture of participating in political activities thus the citizen's only actual way to influence the policies of the society is voting, but the main problem lies within the lack of proper argumentation (clearly and defined) through the voting. Therefore we call for bringing the rational discourse back in politics and, in addition to that, put it generally into use in society at large.

Habermasian rational discourse sets a demand for all the subjects of legislation to be subjects of discourse. Additionally, the discourse must be constructed in such a way that it is based solely on rational arguments (i.e. no strategic games allowed) and every attendee has an equal possibility (may need information and education) to take part in the discussion with proper argumentation.

Without the possibility for all the subjects to be a part of defining the rules or legislation there will be lack of justification of rules or law. For example, in the Finnish legislation there is usually no possibility or right for citizens to appeal to Market Court on cases of procurement of public sector (Heimo, Koskinen, Kainu & Kimppa 2013). This is problematic, because the public sector is acting for the people, and thus it should be responsible to the people. The contradiction between the law and the sense of justice is not strengthening the legitimacy of the law.

If the Habermasian rational discourse would be taken as a procedure in procurement, development, implementation and evaluation of critical governmental information systems, many of the aforementioned problems could be prevented. For example, the different stakeholders should be involved and decisions could not be made only as an official duty by a bureaucrat. When all parties are heard and taken into the active participation process, the outcome (consensus) of the discourse would be more likely applicable and fulfil the interests of society.

Thus we have different levels in society where the rational discourse should be implemented: political level, administrative level and the level where things are realised. It has been argued that implementing rational discourse in law making is impossible in such way that the demands set by Habermas would be fulfilled (see e.g. Mezirow et al. 1990). Thus, the rational discourse is an ideal situation impossible to reach in reality. Nevertheless, we argue that with implementing a rational discourse, even with its flaws, we still can endorse the people's in-

volvement towards matters of society of their own and thus improving democratic (participatory) system and strengthen the justification of the regulation of the society.

5. Discourse on discourse

In many countries (e.g. in Finland, Ireland, Netherlands and the USA) the end-users (specialists, citizens, NGOs, etc.) have been able to show that there are critical problems with the system, but only after the systems' publication (see e.g. Mercuri 2001, Harris 2004, Wijvertrouwenstemcomputersniet 2007, Heimo, Fairweather & Kimppa 2010, Heimo, Hakkala & Kimppa 2012). In these cases the producers and the government officials are defending their position against the end-users and the public (and the aforementioned rational discourse denies this strategic game). Because of the government monopoly, the obvious responsible party is, maybe counter to intuition, the subscriber, *not* the producer of the system.

We propose as a way to spread the responsibility is Habermasian discourse because in that case different stakeholders have equal possibility to take part in the process. Laws, regulations and codes of conduct should be made to prevent any strategic games and deception. What kind the aforementioned laws should be is out of scope of this paper and will not be discussed here.

Pantzar (2002) generalizes MacKenzie's (1990) theory of the *Certainty Trough* to all technology. Pantzar claims, that the salespersons of the product – the representatives of the producer – are denied their right to be uncertain of the product they are selling. In a modern society there is a risk, that this reflects to the suppliers – the government offices' – representatives so, that even they cannot appear to be uncertain of the product when introducing it to the citizens. In a situation where this risk actualises, the information the government officials give to the public is misleading.

For preventing a situation where officials have ended up in a position where they are giving misleading information to secure their own status, we must bring forth *discourse on discourse*. The Habermasian discourse must be introduced to implement such conditions where public decisions are brought into public, Habermasian discourse. Hence, we must have the processes of: procurement, decision, development, implementation and evaluation of critical governmental information systems. By bringing discourse to be a part of all stages of the process we can more likely avoid a situation where the problem is a problem of missing respon-

sibility. It is a necessity to have a discourse for having reasonably allocated responsibility when developing critical governmental information systems.

If the aforementioned discourse on discourse is implemented, it is harder to cover up mistakes made in the process. Moreover, mistakes which are made are not so easy to pour on for some, unlucky scape goat or just endlessly tossed around. This way the organized process is more transparent, just and verifiable.

Thus the Habermasian discourse is not to be implemented only to verify the quality of the CGIS, but also to protect the rights of the individuals and the interest groups; to create improved rules to make the game fair; this of course in addition to the value created by the participatory democracy.

6. Conclusions

It is obvious that the development of critical governmental information systems should be done responsibly. This responsible development however is impossible without the definition of who the responsible actor is.

From the four basic interest groups, the government office, the producer, the end-user group and the citizens, it seems clear that the fundamental responsibility rests with the authorities. They hold a monopoly to the services they have been nominated to produce, control and upkeep and are in superior position in relation to others and thus with great power comes great responsibility.

Therefore the final responsibility lies with the government representative, but, in how the responsibility before the system is released and who is responsible for fixing possible mistakes must be defined through a Habermasian discourse. Also, in cases where the government officials have been purposefully mislead, the responsibility can be repositioned.

Because of the human life is an end in itself (cf. Kant), it seems impossible to actualise the responsibility towards one person – or even a group of people – as a means to repay the mistakes. Therefore we need a Habermasian discourse on how the responsibility should be realised and for what ends. Also we need to modularise the responsibility with various actors in various fields of the lifecycle of the IS.

The Habermasian discourse's main target of application however should be the way the CGISes *should be constructed in the first place*. To guarantee the quality of these systems and to minimise the need to actualise the responsibility thus promoting health, security and wellbeing we should embrace the Habermasian discourse. When, however, the procurement, development and implementation of CGIS is done without the responsibility and accountability of anyone and without the required level of rational public discussion, it can and has already endangered these fundamental values we hold dear.

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