Homework

1) WF PBB
2) False rationale

Bulgarian studies in archives?
KLIRAS KLIRAS NA

1) Sprüchel
2) retrospektiv
3) insidtene? Tpe immöbel?
Outline for the QMOD-paper "Rationality and humanity in quality management: A case study from software development"

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<th>Experimental process</th>
<th>Outline of paper</th>
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<td>What is the problem?</td>
<td>A quality management system is an example of an information system. A debate in information systems theory relates to tensions between systems engineers and users, balancing the machine rationality of the effectiveness and efficiency in systems design and the need to address the fact that the users are humans with needs, feelings, intuitions etc. Much of the research is motivated from an ethical perspective, and there are case studies showing how a single-minded focus on engineering rationality can result in poor results. However, many of these studies seem to take for granted that projects are run according to a world of perfect engineering rationality. Many poor results could perhaps be better explained due to poor project management and lack of technical skills rather than a consequence of engineering rationality per se. In order to explore this issue further, the aim of this paper is to investigate the hypothesis &quot;all quality management can be handled through machine rationality&quot;. The model of engineering rationality that I will use is a model of conventional project management in the normal context of systems development (according to waterfall process development) and a CAS/GA (complex adaptive systems/genetic algorithms) method when there was less external structures to build on.</td>
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<td>How did I solve the problem?</td>
<td>The story is based on my own experience as a research scientist at DNMI 1991-99. The starting point for developing a new climate database KLIBAS was in 1989. It followed conventional waterfall lifecycle project management until 1995 when it was put into production. The team consisted of six</td>
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research scientists and two software engineers.

The period 1996-99 was a period of maintenance, continuous improvement and further development through prototyping.

A long series of scientific documents were written during the whole period, and there were several research papers presented at conferences.

There was also written a large amount of technical documents and administrative documents.

In 2008 and 2009 I have returned to interview people who are now running the organization, trying to get an impression of the current state and different versions of how the development period was experienced.

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<th>What did I find out?</th>
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<td>The first period 1991-95 was a period of conventional project management. Even though it was important for the project and the department to work scientifically, and explain to others that they worked scientifically, I would in retrospect argue that this period was non-rational in many respects. None of the research scientists nor software engineers had a formal degree in computer science. I had a masters degree in computational mathematics, the other research scientists had a meteorological background. The two software engineers had no formal education. There were lots of problems... internal struggles, jealousy, fights, battles, …</td>
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<td>The second period 96-99 was concerned with making a KLIBAS that would actually work after having spent many years on requirements, functional analysis, and design, producing low quality documents that were of limited use. The best way seemed to be to prototype the system from scratch.</td>
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The model worked nicely for developing in a chaotic environment, but it also produced a system that was (probably) difficult for others to understand, despite a long trail of scientific publications on quality control algorithm and technical documents explaining the programs and how they interrelated.

On current visits to the organization I have been told that very little, or probably nothing at all of the CAS/GA system remains. Some of the predictions I made at an EU conference in 1999 have come true however (the total automation of the QC of climate data), and I see researchers referring to some of my scientific reports on documents on quality control.

**What does it mean?**

The way I want to interpret the story is that “engineering rationality” is dependent on environmental structures.

The first period was a period of “nominal rationalism”, meaning that people were trying to be rational and describing their own behaviour as rational, enrolling the management and the total organization into this belief (as there was much money and prestige invested in the project), but I think it could be better explained through Brunsson’s concept of “hypocritical organization” (a socially constructed belief in what was going on was scientific and rational, rather than it actually being so).

The second period appeared chaotic. There was no comparable prestige invested in getting the system to work, but this was a period of real rationality (using scientific models of CAS-project management) and automatic SQA through GA.

Then a new project was started, run with better skilled people and more professional management, and the totally automated process of collecting weather data, quality control and letting online applications produce weather statistics was completed.

The conclusion I want to draw is: In order to succeed with QA, there are many ways of implementing the QMS. The CAS/GA is a totally rational approach in a chaotic context. To which extent it also works in a “mock rational” context of “fake project management” is unclear, but seems likely.