1. SETTING THE SCENE

In 1996 a large Danish manufacturing company - Omikron\textsuperscript{25} - started a European-Commission financed information technology (IT) research project – BlueTech\textsuperscript{1} - in order to develop and test new software that would allow shop floor workers to have more influence and control over their daily work in production. This new software was expected to raise the workers’ motivation and commitment and - in the long run - their productivity. The whole idea was to use BlueTech as an experiment that should show that IT can act as a catalyst for organisational change. Omikron had a very traditional top-down hierarchical functional organisation, with foremen and supervisors telling their colleagues what to do when and how. Most workers had a career of more than 20 years with the company, some even more than 40 years, a period in which a lot had changed technologically, but not organisationally or culturally. BlueTech, on the other hand, was implemented by a very young research department specialised in developing advanced robot systems and robot software, a department which was something of an ‘outsider’ within a company focussed on hands-on production.

\textsuperscript{25} For reasons of confidentiality, the names used in the paper are aliases.
When I entered the project in 1997, the conceptual system design was well underway. A consultant company had developed an organisational design for the production workshops, which was a structure with autonomous working groups, where the different groups work in mutual competition on their production tasks. The BlueTech software would then support a kind of stock-exchange scenario, where each team could make a bid on various tasks to be performed, depending on the team’s workload, the experience of its members, etc. The software would also keep a log of all activities within each team, allowing the group to evaluate its own functioning over time, and in comparison to other teams, and creating a system of bonuses depending on the team’s productivity. In other words, the teams would have control over their planning, their productivity level, and – in the long run - their own pay (cf. Verjans, Mogensen, & Lynggaard, 1998, for a detailed description of the software).

However, this design was developed within the research department as part of an experimental scenario, i.e. there was no intention of applying BlueTech software in production, nor had there been any debate within the organisation about actually changing into a structure with autonomous groups. Therefore there was no relation with the existing situation, nor with the envisaged situation by the time the software would be ready. There was a clear misfit between the experimental organisation and the actual top-down hierarchical structure. There was also a misfit between the expected self-managing, self-evaluating workers and the actual workers’ psychology, i.e. being used to taking orders, not showing initiative, etc. So, finally, when the project financiers demanded that the software be demonstrated in real production settings, the conceptual design had to be redone.

2. POSITIONING THE RESEARCH

The little story in section 1 sets the scene for the research to be described in this paper, namely “What is the relationship between new information technology, organisations and the individuals within the organisations that will have to use the new IT?”

Within different areas of science, a lot of effort has gone into research on the design and development of information technology (IT) that is used or is to be used by people in organisations. However, one cannot help feeling that these efforts are both (a) fragmented in that only one or two factors are used to explain empirical variation, and (b) that they do not capture the complex whole of issues that is involved when new information technology tools change the content of people's jobs and the functioning of organisations.