



Editorial

Spotlight on Chain-computerisation: significance for theory and practice

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Editorial

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Recently, the Upper Chamber of the Dutch Parliament rejected the proposal to establish an electronic patient records system by which all medical personnel throughout the country would, in principle, have access to all patient data. The amount already spent on this over the past ten years is estimated at approximately 300 million Euros. Moreover, the government has also decided to shelve the proposal to establish a kilometre tax to replace the long-used road tax. Here, too, several hundred million guilders have gone up in smoke without showing one single euro in income. Finally, there has recently been considerable controversy over automation of the police system; in spite of an investment of more than 100 million Euros, there is still absolutely no viable, national system for reliable information exchange, and there is not even any idea about when this could become available.

One initial reaction is generally that such failures are characteristic for ICT projects within the government. Unfortunately, such examples are also readily available within industry, it is just that nobody makes such a fuss about them. It is these types of 'incidents' that give chain computerisation a bad name. If a project is successful, it is then taken for granted, but a major failure is made the most of and is not easily forgotten. Meanwhile, the failure of larger, complex computerisation projects is now, to an increasing degree, 'expected' and is almost accepted as a sort of natural phenomenon. This leads to the question of how it is that, time and time again, such spectacular and exceedingly expensive failures surface, while our capacity in the area of computer programming has increased so enormously -- these days, a 16-year old at home can build a game or a website which, 20 years ago, would have been a major project. And the next question is if -- and, if so, how -- we can prevent these failures.

Those involved in chain computerisation could, if asked, often indicate fairly precisely where all this has gone wrong, -- in particular if these are mistakes that could be blamed on others. All the same, what was missing for a long time was a clear scientific theory that could predict the success rate of complex, interorganisational ICT projects with a considerable degree of reliability. There are also other questions that one must be able to better answer in advance: what the approximate costs are, what the end product will be and if the software designed to solve the problem actually does that.

We have Jan Grijpink -- who explicitly identified and studied the concept of 'chain computerisation' -- to thank for the fact that, in any case, the above question of the success rate no longer needs to remain unanswered. Moreover, we have now been able to identify a number of success and failure factors for chain computerisation projects. What is striking here is that, for a very long time, we have searched for these factors in the wrong place. The cause of the failure generally does not lie with either the 'pure computer science' side of a project or the organisation of the cooperation at the strategic, tactical or operational levels, alone. It is generally the multiple contexts within which the project takes place and especially the abundance of actors (and, thus, the abundance of divergent interests and values) that are determining. One of the critical factors appears to be a so-called 'dominant chain problem': an (often acute) problem that is experienced as such by all actors and for which said actors are prepared to make an effort and work together constructively.

In short: The solution to the problem lies in a broad-based understanding that there is a collective problem that cannot be solved alone.

During his appointment in Utrecht, Jan passed his insights onto his students, had them tested in the form of student projects and refined and expanded them through research by PhD candidates. Thus, a large number of so-called 'chain-analyses' were carried out. In these studies, new insights were obtained that, in turn, were incorporated into models that could be used, increasingly successfully, to predict the success or failure of chain computerisation projects. As a consequence of all of these activities, the field of 'chain computerisation' has become a viable and dynamic area of research with its own journal, in which – via contributions from scientists and professionals – specific knowledge and experience in the field of chain computerisation can be shared. As a consequence of the teachings and research by Jan Grijpink and his undergraduate and post-graduate students, the concept of 'Chain-computerisation' has been put firmly on the map. The methodology developed is now applied by many in their daily work environment. In numerous meetings and symposia, experiences are exchanged and the concept is discussed, criticised, evaluated, refined, rejected and accepted.

We are convinced that, although Jan Grijpink has been accorded emeritus status, this is not the end of the Chain Landscape Research Programme; the theory of Chain-computerisation will, at the very least, be further developed by a group of active PhD candidates. We know that there is still a long road ahead of us and that it will not always be an easy one. The underlying set of disciplines from information science, along with the social sciences and the administrative and technical disciplines are too complex for that. But still, if we are able to prevent only one of the 'disasters' mentioned at the beginning of this editorial by the application and further development of the theory and methodology of Chain-computerisation, then the *return-on-investment* is already enormous – both financially and socially.

In this Journal for chain computerisation, a series of articles is now being included on the relationship of the theory of Chain-computerisation with other fields of administrative informatics, on refinement of the model including the necessity of having a common (and clear) method of identification at one's disposal, on the problems that can result from such unique identifiability, on privacy issues, on the role of reliability of available information and on problems that can be caused by 'thinking at the wrong level' and how these can be prevented. These articles form the basis of the presentations by the authors during the farewell conference on the occasion of Jan Grijpink's farewell as Professor of 'Chain-computerisation in the constitutional state' at the University of Utrecht. The articles also often talk about the influence that this chair has had on the further development of the theory and approach in practice.

These articles are:

- Theo Bemelmans, *Chain-computerisation! Chain-computerisation in a historic perspective*
- Dennis van Breemen, *Synergy through connections: Chain-computerisation in relation to Interorganisational Systems and Public Administration*
- Wim Borst, *Chain-computerisation in practice: the criminal justice chain*
- Marijn Plomp, *Chain-computerisation as a research methodology: The fruits of six years of Chain Landscape Research at Utrecht University*
- Richard De Mulder, *Chain approach, innovation and leadership*
- André Leijser and Fleur Pullen, *Innovation in the chain: Chain-computerisation for Work and Income in motion: Where is it headed?*

- Tim Berkelaar, *Chain-computerisation as a 'critical mass' strategy for a chaotic reality: The ecology of information-infrastructures*
- Martijn van der Veen, *Chain-computerisation and privacy*
- Jesse Dijkman, *Chain-computerisation, quality and risk*
- Tjitske Visser, *Chain-computerisation and theories on knowledge-sharing: Prevent a fallacy of the wrong level and do not step into the pitfall of an unstructured-information overload*

If we are to truly succeed in developing the theory of Chain-computerisation further and applying it better, then, perhaps, the bad memories of the past will evaporate and it will be more the rule than the exception that ICT projects deliver what had been expected at the outset.

Let us hope that Jan can enjoy his emeritus status long enough to see that happen.

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