

## **Collaborative researching - from ISAC to VITS through HUMOR**

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### **Introduction**

How do we organize research environments? How do we succeed in creating good collaboration in research? How can we exploit individual research talents when trying to work together? Are individual research careers possible in collective research environments? These are pending questions when discussing ways to perform research. However, I do not find such questions often addressed in writings on research strategy.

In this short essay I will give my personal reflections on these matters. These reflections are personal since they will present and elaborate on my own experiences during more than 30 years of active research in collective research environments. It is thus a very personal document dealing with my ways and my convictions of how to organize and perform research. The thoughts that I present are however not some passing fancies. They have evolved through a long time with continual reflections on these matters. So I claim that I have something important to say to other members of the research community.

I will below briefly go through experiences from working in three research organisations; first the ISAC research group, then the HUMOR research group and lastly the VITS research network.

### **ISAC Research Group**

I started my research career as a young research candidate 1973 in the ISAC<sup>1</sup> research group at the DSV<sup>2</sup> department, Stockholm university/Royal Institute of technology. The ISAC group was headed by Mats Lundeberg and our work was to a large extent inspired by the pioneering works of our first professor Börje Langefors (1966) on information systems (IS). ISAC worked in the area of what we at that time called problem oriented systems development (or with typical langeforsian terms ‘infologically oriented systemeering’). We created methods for early stages of information systems development (ISD). These early stages were labelled change analysis, activity studies, information analysis. Many papers were written and also some books (Lundeberg, Goldkuhl, Nilsson, 1978; 1981). We created the ISAC method, which at that time become a rather famous method for ISD and which inspired other methods as well. There were several people in the ISAC group participating in the work around the

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<sup>1</sup> In 1973 ISAC was an acronym for Information Systems for Administrative Control. Later it was changed to Information Systems work and Analysis of Changes.

<sup>2</sup> At that time the official name of the department was not DSV. It was known as ADB department (from the Swedish name of the discipline at that time, Administrativ databehandling [Administrative data processing]). I will however use the name DSV in this article.

ISAC methodology. As a result of our book writings (ibid) the main contributors became Mats Lundeberg, Anders G Nilsson and myself.

ISAC talked about user orientation early in the history of information systems, when the research was mainly more technically oriented. Our research was questioned by many technically oriented researchers. I think that this was one reason why ISAC was a rather closed group. There was an external pressure which made the group more tightly together.

I was a member of the ISAC group 1973-1980. During this time I wrote my Ph D dissertation (Goldkuhl, 1980) with Börje Langefors as the main supervisor and Mats Lundeberg as secondary supervisor. In this dissertation I presented results from method development concerning information analysis (the ISAC method) and empirical studies concerning methods use. The dissertation can be seen as an important contribution to the ISAC approach. It contained, however, also seeds for alternative ways of thinking. As said above, we were to a high degree inspired by Börje Langefors (1966) works on infological systemeering. This was one main theoretical source for my work. However, during my dissertation writing, I became hesitant towards the systems-theoretical base of Langefors' works. I missed something. The human aspects seemed to be under-developed. With inspiration from humanistic and actor-oriented views in reference disciplines such as philosophy, psychology, sociology and linguistics I added such views to the infological theory. Instead of talking about infology I started in my dissertation to talk about human-infology. This was a seed for an altered theoretical orientation and also for another research organisation (more is to be said about this below).

I started my research career working in a research group - the ISAC group - and this has had a tremendous impact on my later work as I can see it now. We, members of the ISAC group, worked together in creating something larger (the ISAC methodology), which was much greater than a single person could have done on his own.

### **HUMOR Research Group**

1980/81 the research at the DSV department was re-organised. The SYSLAB research organisation was created and consisted of researchers from DSV and our sister department in Göteborg. Janis Bubenko had been professor in Göteborg and when moving back to Stockholm as the new professor after Börje Langefors, this trans-departmental research organisation (SYSLAB) was created. SYSLAB consisted of several small research groups. At that time some researchers in Göteborg and Stockholm created a new research group within the SYSLAB frame. The Human-Infological research group (abbreviated HUMOR) was created and I was appointed leader of this new group. The name of the group was taken from the emergent theoretical orientation of *human-infology* which I started to develop during my dissertation work some years ago. This theoretical orientation was a common basis for our research endeavours in the HUMOR group.

I was the leader of the HUMOR group 1981-1985. During 1982 I got a position at the department in Göteborg and as a result of this the HUMOR group continuously became a Göteborg group. After some while we also left the SYSLAB organisation.

The research in HUMOR was partially built on earlier work in ISAC, but was also a reaction towards that work. We continued to address early stages of ISD, now called change analysis and information requirements analysis. We were inspired by the ISAC methodology and used

parts of it when creating new methods called the SIM<sup>3</sup> methodology. Some steps in the alternative direction were already taken in the transition from ISAC to HUMOR/SIM. I wrote a book 1981 on ISD methods together with the ISAC member Anders G Nilsson and the HUMOR member Annie Röstlinger (Goldkuhl, Nilsson, Röstlinger, 1981). This book consisted of some parts of the ISAC method but took steps towards what later became the SIM method. Later I made a clear distance to the ISAC method and wrote a critical paper about the ISAC method (Goldkuhl, 1984) which got a lot of attention among Swedish research colleagues.

The human-infological perspective was further developed within the HUMOR group. There was a great influence from so called speech act theory (e.g. Searle, 1969). I made important theoretical and methodological development together with my research colleague from Finland, Kalle Lyytinen, who was a guest researcher in HUMOR at DSV 1981/82. We wrote several papers together. The most important was probably our ICIS-82 contribution (Goldkuhl & Lyytinen, 1982) where we coined a new emergent IS perspective based on speech act theory: The language-action view. This view influenced to a great extent the work on the SIM method for information requirements analysis. While language-action influenced information requirements analysis, there were other human-infological influences on Change analysis/SIMM which became the main research contribution from the HUMOR group. Several researchers participated in development and practical tests of the method. Different theories on problem solving, creativity, critical thinking and organizational change influenced the development of the change analysis method.

In the end of 1985 I moved to Linköping and started to work at the Linköping University. The work in the HUMOR group came to an end as a consequence of this. My research around the SIMM methodology continued but it took other shapes. Together with two research colleagues from the HUMOR group (Annie Röstlinger and Jan Selldén) I created a small consultancy firm (Intention AB) devoted to work around the SIMM methodology. During the years 1986-1990 we worked, besides university teaching, with dissemination of the SIMM method to trade and industry. Annie Röstlinger and I wrote a book on change analysis (Goldkuhl & Röstlinger, 1988). I wrote also a manuscript on information requirements analysis, which was published as a book later (Goldkuhl, 1993).

What was the difference between the work in the ISAC group and in the HUMOR group? Obviously there were some similarities. We addressed partially the same issues (methods for earlier ISD) and this work was a collective research endeavour. We also had much cooperation with companies (often in action research projects) in the two groups. In the HUMOR group, we had more of a common theoretical ground for our work. Although, the langeforsian theories played an important role in the ISAC group, there were many other theoretical influences on the research. There were different influences on the different researchers' works. There was not such a strong theoretical cohesion in the ISAC group compared with the HUMOR group. The research methodological awareness was much higher in the HUMOR group. Our research emerged along anti-positivistic and hermeneutic threads. This led us to an even greater opposition to prevailing trends in IS research. I think that one can say that we were "young and angry" researchers acting in great opposition towards established research. This made also the HUMOR group a tightly connected group. We had to defend ourselves towards a "hostile environment".

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<sup>3</sup> SIM was originally an acronym for Speech act based Information systems Modelling. Later the method was changed to SIMM and several other meanings have been used for this acronym, e.g. Situation adaptable Information systems Modelling Method.

## VITS research network

After some successful years as consultants, it was time for more dedicated research again. I started 1990/91, together with Annie Röstlinger, the VITS<sup>4</sup> research group at the Department of Computer & Information Science, Linköping University (LiU). This research started on the basis of our successful work with the SIMM methodology. This was a natural input to our work. But we wanted also proceed in new directions. We started research projects on CASE tools and meta modelling, information systems architecture and IS evaluation.

The starting of VITS was done together with establishment of Ph D education in information systems development at LiU. I became an entrepreneur for this Ph D education which was performed well integrated with the research in the VITS group.

When starting the VITS group I tried to build on the positive experiences from ISAC and HUMOR. Based on these experiences I had a strong belief in collective research. However, I also wanted to learn from some more negative issues. Both ISAC and HUMOR had been fairly closed groups. Of course we had a lot of exchange with other researchers and practitioners, but anyway, collaborations with others could have been more intense. I wanted VITS to be a more open group with not so distinct borders to its environment. I wanted the group to be more cooperative in its relations to other researchers.

Based on these intentions, I cultivated contacts with other universities in Sweden. Several teachers at smaller universities were enrolled as Ph D candidates in our new Ph D education in Linköping. These teachers/Ph D candidates were also engaged in the VITS research. Win-win situations were created. We (in Linköping) afforded research tasks and a Ph D programme and the external Ph D candidates contributed with time and efforts. After some years (around 1995) the VITS group had grown to more than 15 members. We discovered that that were more members from outside Linköping University than were employed at the university. This led us to change organisation idea and form of VITS. Earlier VITS was defined as a Linköping-based research groups with some members from outside. This was changed to the following: VITS is a net-worked and multi-sited research organisation. VITS has several academic host organisations. VITS has continued to expand and today (2006) we are more than 40 members from eight Swedish universities (Linköping, Borås, Dalarna, Gotland, Jönköping, Kalmar, Karlstad, Örebro). VITS is not described as a research group. It is a virtual research organisation. It is a network in two dimensions; one geographical network, consisting of different university groups (as mentioned above) and a subject matter network, actually eight collaborating research groups (E-government, Business Processes & Information Systems, Business Interaction & Electronic Business, Qualitative Research Methodology, IT & mobility, Information Systems Actability, Methodology & Meta development, Soft infrastructure). The research scope of VITS is much broader compared with ISAC and HUMOR.

The research environment of VITS has shown to be very attractive for many researchers. I will try to give some hints why so many persons have found VITS to be an interesting research environment to join and to contribute to<sup>5</sup>.

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<sup>4</sup> VITS is an acronym for the Swedish "Verksamhetsutveckling, IT-användning, Styrning och samverkan"; in English "Workpractice development, IT usage, coordination and cooperation".

<sup>5</sup> Parts of this have been described more thoroughly elsewhere; e.g. Goldkuhl (2002). Confer also assessments of the Ph D programme in information systems development in Linköping (Linköpings universitet, 2003;

A research network like VITS is much more than the sum of its members. Such a research network holds a *network capital*. This is an intellectual capital that I want to divide into three parts:

- Knowledge capital
- Social capital
- Process capital

VITS has developed several knowledge products as parts of its *knowledge capital*. These knowledge products are theories, models and methods. Also ISAC and HUMOR developed joint methods. In HUMOR, we also worked with a joint development of the human-infological conceptual foundation. However, in VITS, this has been taken to a higher level<sup>6</sup>. During the years, a coherent group of theories, theoretical models and methods have been developed. The different theories and theoretical models build on a common theoretical ground. This common ground is now called socio-instrumental pragmatism (Goldkuhl & Röstlinger, 2003a; Goldkuhl, 2005). It is an action-theoretic synthesis of different action-theories from different reference disciplines. As an action-theoretic synthesis it has been especially adapted to information systems studies. Socio-instrumental pragmatism functions as a common and progenitive ground for other VITS theories. The most prominent theories in the VITS family is workpractice theory (e.g. Goldkuhl & Röstlinger, 2003b), Business Action Theory (e.g. Goldkuhl & Lind, 2004) and Information Systems Actability Theory (e.g. Goldkuhl & Ågerfalk, 2002). It is far beyond the purpose of this paper to describe the contents of these different theories.

These different theories function as theoretical bases and are used together with methods in the SIMM method family. There is a heritage of methods from HUMOR (change analysis, information requirements analysis), but these methods have been substantially further developed (Goldkuhl & Röstlinger, 2005; Cronholm & Goldkuhl, 2005). Several other methods have also been developed, for example methods for inter-organisational analysis, knowledge analysis, IS architectural design, IS evaluation, method integration, method configuration. The qualitative and interpretive research tradition (from HUMOR) has been included but it has also nuanced and brought further to research approaches more built on pragmatic foundations than plain interpretive (Goldkuhl, 2004a). Much effort has been put on research methodology. One very important contribution is the development of a combined inductive and theory-driven approach called Multi-Grouped Theory (Goldkuhl & Cronholm, 2003). This approach builds partially on the established social science method for qualitative analysis, Grounded Theory (Glaser & Strauss, 1967).

VITS is a result oriented organisation. Since 1994, we have produced 13 Ph D dissertations and 35 licentiate thesis. Many of these publications have utilized methods and theories from the VITS knowledge arsenal and also contributed to their development.

The different methods and theories rely, as said above on a common socio-pragmatic foundation. This is a common value ground which also involves a knowledge interest to contribute to the improvement of the practice of information systems. We develop theories, but they aim to be useful as practical theories (Cronen, 2001; Goldkuhl, 2004b).

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Högskoleverket, 2004). Confer also our website ([www.vits.org](http://www.vits.org)) with extensive descriptions of the research and numerous publications to be downloaded.

<sup>6</sup> There is a clear theoretical continuation from HUMOR to VITS, confer Goldkuhl (1992). I have also related the work in VITS back to the theories of Börje Langefors (Goldkuhl, 1995).

To strive for joint knowledge products has been a very important aspect of the VITS research. A coherent body of knowledge is created. It enables cumulative research with continuous development, application and testing. It enables also collective research with different researchers contributing to a joint knowledge at different points of time. Fragmentation and isolation are avoided among research members and a common research focus is chosen instead. To work together on common knowledge products strengthens the *social capital* in the network. It stimulates interest, motivation and commitment for co-work. The knowledge capital and the social capital hold the network together. The geographical dispersion of the network has of course negative influences on it. Such a dispersed network can fall apart. This has not happened. VITS researchers, coming from different universities, like to work together on joint projects, theories and methods.

Over time, we have worked hard to create synergy effects between the VITS research and the Ph D education in information systems development. A *process capital* has been developed. We have a very active seminar culture in VITS. Besides normal research seminars in the network we have also arranged other important meetings for knowledge exchange and development. We have several times arranged our own VITS doctoral consortia (with invited international experts) for review of thesis proposals. Every year we arrange VITS pre-international workshop in order to stimulate the production of publications to be submitted to international conferences and journals. These different seminars and meetings are not closed for only VITS members. Other research colleagues are also invited to keep the group open to the environment.

VITS researchers are taking part in different international networks; for example LAP (Language-Action Perspective), OS (Organisational Semiotics) and ALOIS (Action in Language, Organisations and Information Systems). We have arranged several workshops and conferences. Several VITS researchers are also participating in a new international scientific journal (Systems, Signs & Actions; [www.sysiac.org](http://www.sysiac.org)) related to the scientific communities mentioned above.

The work in these three research organisations has strengthened my conviction of the importance of collaborative research. The results should never have been achieved if there were researchers working in isolation.

I worked in these three research organisations; in ISAC during the 70'ies, in HUMOR during the first part of the 80'ies and in VITS since beginning of the 90'ies. The first two were DSV groups, but not the third one (VITS). However, VITS owes a methodical heritage to Langefors and ISAC and a humanistic and action-theoretic heritage to HUMOR. I have learnt a lot in working in these three research environments. Since the inception of my research career, as young research assistant in ISAC 1973, I have appreciated to work closely together with other research colleagues and to create theories and methods together with them. As a research director (in HUMOR and VITS) I like to be an inspirer for other researchers and stimulate them to work together on common knowledge products. Much of my own research during the last years has been dedicated to foundational (socio-pragmatic) theories that I consider to be appropriate theoretical tools for other researchers to apply on diverse research endeavours. These theories are, of course, aimed for both VITS researchers and external researchers.

Collaborative researching means a co-creation of knowledge. Collaborative researching is meaningful and it is fun. There is a thread from ISAC, through HUMOR to VITS in knowledge creation. There has, in these three research organisations, been a foundational belief and knowledge interest for a more constructive utilisation of information technology by people, organisations and in society. Practical theories and methods can contribute to make IT-supported work better work.

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