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Author(s): Hirvonen, Ari; Pulkkinen, Mirja

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USER PARTICIPATION IN CONSULTING PROJECTS: CLIENT AND PROVIDER ROLE VARIATIONS

Hirvonen, A. P., TietoEnator Corporation, P.O.Box 203, 40101 Jyväskylä, Finland,
ari.p.hirvonen@tietoenator.com

Pulkkinen M., Information Technology Research Institute, University of Jyväskylä, Finland,
mirja.pulkkinen@titu.jyu.fi

Abstract

This study presents a variation scheme of participation roles in consulting projects. Typical consulting assignments in the area known as IS planning involve strategic planning and information systems management, enterprise architecture, information management or information technology governance. Participation is a crucial issue in consulting on these issues. In the literature on participation, different roles and tasks have been found, but it is not always specified, on what types of projects or systems the results are based. The literature on consulting suggests some models for work division. In a two-phase qualitative study, we first collect possible tasks in ICT consulting projects, and then, based on further explorations, create a model for role variations in consulting. We compare roles suggested in the literature on participation and on consulting to our findings. The suggested variation model gives a common framework of reference for negotiations between the provider and the client, and helps to anticipate the needed competences and resources from both parties, and discern between their responsibilities.

Keywords: User participation, consulting, roles, provider roles, ICT consulting, IS planning

1 INTRODUCTION

This study deals with the user and provider role variations in projects conducted in the Information Systems (IS) Planning area as consulting assignments. With both new technologies and new ways to use information and communication technology (ICT) in organizational activities, the area of IS planning has become a vital part of the ICT services (McNurlin and Sprague 2002, Olle et.al. 1988). In short, IS planning means: 1) Considering the ICT issues in the enterprise and its environment for strategic decisions and 2) Planning and managing the implementation and use of ICT to carry out and support the activities of the enterprise for optimal performance and competitiveness.

This is today often associated with either Enterprise Architecture (EA) planning, development and management (The Open Group 2002, Hirvonen and Pulkkinen 2004), or Information (Systems) Management (IM, McNurlin and Sprague 2002) and Information Technology Governance (ITG, Peterson 2000). The EA approach stresses the planning and management of all ICT assets and their architecture together with organizational structures and processes, whereas the other approaches take the viewpoint of the IT department and CIO in an enterprise.

Management consulting and business operations consulting have existed all along, but the changing role of ICT has caused moves in both consulting and ICT provider companies. Today's ICT services providers may specialize in a single phase of system development. Besides specialisation, there are full-scale providers that offer a palette of services ranging from management consulting to software development and implementation (Hirvonen et.al. 2003).

During the three-year period of our research project, all three ICT companies participating in the academic research effort have each faced this challenge. One of them acquired a consulting company. The second one started also providing business consulting and hired their first business consultant. The third company, which is the target of our case study, has also been practicing as management consultancy for quite a long time. Yet recently, new business units have been founded for consulting activities in the described IS planning or EA consulting area. All three companies aim thus at providing the full scale of ICT services. Still, a single project practically never seems to have such a wide scope (Hirvonen et.al. 2003).

In the changing business environment for both the clients and the providers of ICT services, consulting projects are taking a growing share of the activities. Horizontal (Braa and Rolland 2000) or global (Ives and Jarvenpaa 1991) information systems as well as practically unlimited networks of systems have enabled new organizational forms (Applegate 1994, DeSanctis and Monge 1999), like virtual teams, and new business models. With this (r)evolution, user organizations treat not only single information systems (Earl 1989) but all information and communication technology (ICT) and their uses as a strategic asset (Henderson and Venkatraman 1999, Seltsikas 2000, Hackney et.al. 2000).

For an ICT consultancy this means, rather than planning and acquiring a single information system, client organizations are asking for comprehensive IM and EA planning in order to align their ICT investments and usage with their business goals, and to reorganize their business activities, for example as ICT enabled cross-organizational processes or as novel business models (e- or m-business). Last, but not least, they need to plan the comprehensive management of enterprise information as well as the management of their ICT assets.

In this paper we call projects conducted in this area consulting projects; meaning an IT project where no information system is designed or implemented, but planning, evaluation and requirements gathering activities are carried out. ICT assets (hard- and software, networks) in a whole enterprise or a domain area are considered. Possible business-, information-, applications- and technology architectures are designed and evaluated.

The varying roles of consulting and the dynamism in ICT end-user and consultant relationship are not well understood. Nevertheless, the role of an ICT service provider is becoming increasingly important

as organizations' internal ICT functions are evolving from technology specialists toward business support and enablement (Mahoney 2003). In this relationship, new methodological approaches, new skills and even new ICT service business models are needed.

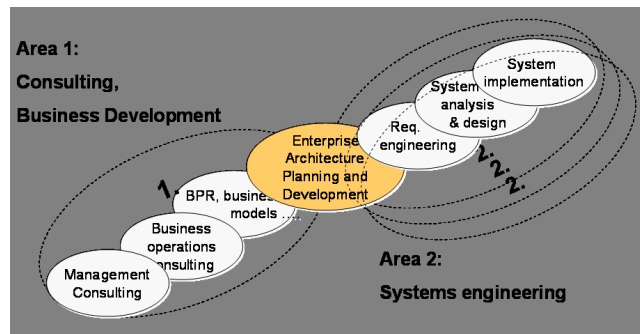


Figure 1 Examples of project types of a full scale ICT services provider

In consulting projects, both the provider and the user roles are different from a systems project. Active participation of the client is essential, and the purpose of our study is to gain a better understanding of the roles, tasks, responsibilities, and variations in them, of both parties in consulting projects.

Our case study with a full scale ICT provider (the largest one in Scandinavia) covers the area that joins business consulting and systems work. This area has been identified as having a methodological gap (Buchanan and Soley 2002, Zachman 2003) and we believe that in this area, there is also a gap in participation studies which we intend to explore in this study, taking as a starting point firstly, participation studies in IS literature, and secondly, consulting literature- the two ends between which the gap seems to exist. The scope of our study is organizational IS and the initiation and planning for the adoption of technologies and systems.

2 ROLES IN PARTICIPATION AND CONSULTING LITERATURE

The study of **participation** has a long tradition in information systems research. There have been different schools and approaches with roots in different ideologies and at different geographical locations. Probably the first method introduced was the Participatory design with a socio-technical approach (Mumford and Henshall 1979) that later evolved to the ETHICS-methodology (Hirschheim and Klein 1994). The Scandinavian school of user participation (Bjerkens and Bratteteig 1995), with a political touch was later set forth as a more neutral co-operative (or collaborative) design (Grønbaeck 1993, Kyng 1994) within the CSCW community.

With a different approach (and on a different continent) the joint application development (JAD) and rapid application development (RAD) were introduced as pragmatic ways to involve users in a controlled way keeping the time spent on the project limited. This line further developed into eXtreme Programming (XP) and other agile methods (Abrahamsson et al. 2003). These approaches have contributed to a common understanding of the importance of user involvement (Cavaye 1995, Spinuzzi 2002) and to a variety of techniques (Muller et al 1993). An example of organizational information systems design and development with emphasis on user involvement is Soft Systems

Methodology SSM (Checkland and Scholes 1990) that has incorporated extensive user participation into a software methodology and is also concerned with emerging organizational change. An extensive study of organizational change and system design and implementation together with the users, inline with the co-operative design approach, is the NORNE project (Hepsø 1997).

However, it seems not to be very common in the user participation research to differentiate between project types. Empirical studies (Barki and Hartwick 1994, Barki and Hartwick 2001, Hartwick and Barki 1997, Morley 1993) take an “IS project” as the unit of observation. Yet it has been pointed out that different phases of the generic software process may be today sold as separate projects (Hirvonen et.al. 2004). The IS planning phase is broken down into at least 1) strategic planning 2) business operations consulting (e.g. BPR) and 3) architecture consulting. The actual software development is undertaken in most commonly two, sometimes even three, different project types that may well be provided by different suppliers: 1) requirements engineering and specification, 2) system design and 3) system implementation (See Figure 1). Each area focuses on different development area in the organisation. ICT end-user organisations’ user roles in different development areas vary from technology specialists to management.

Besides different project types, participation approaches stem from work with varying types of systems. Organizational IS necessarily draws organizational change into the picture. Kwon and Zmud (1987) have suggested an IS research framework that subdivides the area according to the organizational change phases (See Figure 2). Organizational change has since then been studied in IS research, as it was understood that technology acts as a catalyst of change (Applegate 1994, DeSanctis and Monge 1999) and revolutionizes organizational life. With the new position ICT has in organizations today, these findings have the greater significance. In our view, software engineering and the real end-user role (i.e. people who are going to use the product in their work on a daily basis) participation belongs to the later phases (Figure 2), or to work with systems that don't necessarily bring about an organizational change. Consulting deals with the earlier stages where the organizational change is initiated and facilitated; and also with the organizational use and management of IS. We suggest some consulting areas in Figure 2 for each organizational change phase.

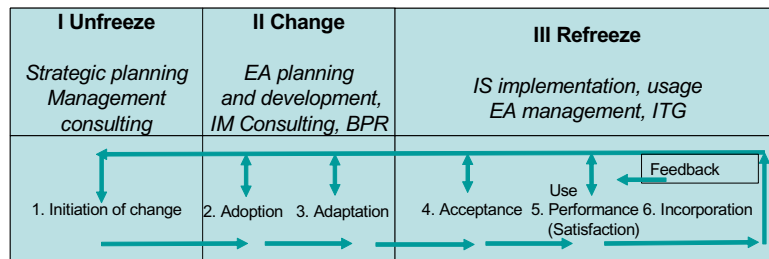


Figure 2 Information Systems Implementation Process in an Organizational Change Framework (Adapted from Kwon and Zmud 1987).

Roles in user involvement

In research on participation, we have found the traditional systems process being accepted as a basic assumption. We found three attempts to differentiate between roles in participation:

- Consultative, Participative and Consensus (Mumford and Henshall 1979)
- Client, Informer, Designer and End-User roles (Morley 1993)
- User advocacy (a provider member taking the viewpoint of the users) (Sohlenkamp et al. 1999)

Further studies (Barki and Hartwick 1994, Barki and Hartwick 2001, Hartwick and Barki 1997) have broken the general concept of user participation down to four dimensions:

- Responsibility (leadership, accountability for the project)
- Evaluation and Review of IS work
- Communication (Users with IS staff; Users with users; Users with senior management)
- Hands-on activity (design, training).

These facets are further specified by the different tasks that the users are involved in with an IS project. Many different participation tasks have been found, but these and the different roles have not been placed into a larger framework, although the roles reflect the phases of the software process. Not only the user roles as suggested in participation studies, but also the role responsibilities of the provider side vary. Participation literature does not differentiate between provider roles, but concentrates on the end users. Consulting literature has dealt with this issue to some extent.

Consulting is seen as a joint learning process for the consultant and the client to solve organizational problems (Block 2000). Block claims that if the client has the major responsibility for the whole process including decision making and the consultant cannot affect the decision making process, the consultant's influence on the final results of the effort is not sufficient and their expertise is not leveraged.

On the other hand, if the consultant has a major role in the process and in the decision-making, the consultant has become a substitute manager. Actual changes will possibly be done very effectively, but problems occur when the client's management must take over and live with the decisions. Therefore the consultant and the client should have a 50/50 balance in the project and in the decision-making for the effort to be successful (Block 2000).

Spewak (Spewak 1992) has proposed two types of consultant work: facilitative and operative. According to Spewak, the facilitative consultant provides technical guidance and assistance. Operative consultants bring in their own team of consultants that is responsible for producing most of the planning results and also takes over the project leadership. Three major types of ICT consulting projects have been identified (Hirvonen et.al. 2004):

- Strategic management consulting which focuses on business strategies, vision and, for example, services portfolio development with the client.
- Process consulting which deals with business operations planning and process development with the client's tactical management (e.g. unit managers, business process owners)
- Enterprise Architecture (EA, or more restricted IT architecture) consulting which focuses on comprehensive architecture issues, with an ICT focus and ICT oriented client project members.

Consulting cases are very variegated (Hirvonen 2004, Hirvonen and Pulkkinen 2003, 2004). The cases can focus on one limited area of development or set of development areas with a very narrow or a broad focus. The number of the client and the consultancy representatives also vary a lot between cases. The proposed consulting project participation models (Block 2000, Spewak 1992) give some good advice, but do not suffice for methodological support to guide the work in all possible variations found in real business cases.

3 STUDY SETTING AND DATA: INTERVIEWS AND CONSULTING CASES

The present paper reports a case study (Yin 1994) within a larger research effort. The study data was collected in two phases. We were using semi-structured interview techniques (Yin 1994) and discussed the interview results so that the interpretation could be characterized as negotiated text (Fontana and Frey 2000). Also, during the second set of interviews, we were able to view the case

documentation and thus build an enriched picture of the setting (Hodder 2000). To collect data, we conducted a total of 10 interviews with 7 consultants, three of the consultants were interviewed in both phases.

First phase. In the initial phase of the project, when we first surveyed the development area, four IT architects and consultants were interviewed. Among others, the following questions were dealt with in semi-structured interviews:

- The role of the consultant and the client in the preparatory phase, the working phase (workshops etc.) and in producing the results; workload division
- What were the methods of working and which techniques were used
- What are the main problems in architecture consulting - do they lie in the processes, collaboration, shortcomings of methods and tools or the lack thereof

The interview results were noted on paper and later summarized and analyzed. From these results, we extracted 11 task areas in consulting projects (See Section 4. Analysis, Figure 3, and Table 1)

Tasks/ Activities	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8	Case 9
Decision Making	C	C	C	C	C	C	C	C	C
Current Situation Analysis	C	C	C	C/P	C	C/P	C/P	C/P	C/P
Requirements Analysis	C/P	C/P	C/P	C/P	C	C/P	C	C/P	C/P
Enterprise Architecture Planning	P	P	C/P	P	C	P	C/P	P	P
New ideas Creation	C/P	P	P	P	C/P	P	-	C/P	C/P
New Technologies and Business Models Adaptation	C/P	P	P	P	P	P	-	C/P	P
Notations and Design Techniques, their Usage	P	P	P	P	P	P	P	P	P
Frameworks, their Adaptation	-	P	-	P	C/P	-	-	-	-
Process and Project Management	P	P	P	P	C	P	P	P	C/P
Adaptation of Best Practices, Experience	P	C/P	P	P	P	P	-	P	P
Solution Alternatives Creation	P	C/P	P	P	P	P	-	P	P

Table 1 The Responsibilities of Client (C) and Provider (P) representative(s) in 9 consulting projects.

Second phase. After analyzing the preliminary results of the first interview set, we conducted six more interviews. In each of them, one or two consulting cases were discussed in detail. The interviews were recorded on tape and transcribed later either in total or at least in summaries.

Two consultants, and one client representative who had participated, were interviewed on 3 consulting cases dealing with organizational ICT planning. Additionally, three consultants presented in further interviews 6 cases with varying size, scope and varying modes of participation. The interviewees were asked to explain the assignment setting, the process and the results, and also to comment on the working methods, workload division and possible problems. Table 1 presents a summary of tasks and responsibilities found in these cases.

4 ANALYSIS

A general view of EA consulting, the activities and tasks found in EA consulting projects, and the participation of the client (C) and service provider's (P) representatives in conducting these activities and tasks is shown in Table 1. A brief description of the findings in the first and the second phase of interviews follows.

In the first phase (set of 4 of interviews), we found that possible **client** tasks were:

- 1) providing information on
 - a) present state of business,
 - b) present technologies,
 - c) business targets (mission, vision; short and long term goals),
 - d) problems and development needs;
- 2) Making decisions on
 - a) resources,
 - b) development targets,
 - c) their prioritization;
- 3) Designing and co-designing novel business structures (e.g. business processes and models design).

The **consultant** was

- 1) Providing information on
 - a) technologies enabling new solutions for arranging business activities
 - b) estimates of resources needed for developing architectural solutions using specified technologies
- 2) Guiding the project process; organizing and leading workshops
- 3) Facilitating information exchange on architecture and technology solutions;
- 4) Developing new architectures (designs) for given domain areas
- 5) Suggesting technology alternatives
- 6) Evaluating architecture solutions, technology and products.

Based on the first interview set, a model of client / consultant tasks and workload division was created (Figure 3). The right bottom triangle is a typical role and an essential competence set, but in some cases consultants may have a much greater responsibility. The area under the upper dotted line may be the consultants' responsibility. This corresponds to the previously mentioned operative consultant's role.

The client's responsibility is focused on the upper left hand side triangle area, but in some cases the client may take a larger responsibility. The client's responsibility area is depicted above the lower dotted line (Figure 3). The consultant may be only a facilitator, serving with planning and notation techniques and the like, and the customer will carry out the actual planning work.

Ways and means of collaboration were for the most part the same: workshops, interviews, group interviews. Consultants were conducting analyses, presentation and discussion of analyses, evaluating and suggesting new architectural and technology designs and solutions.

In the second round of interviews, problems in the client and the service provider roles were discussed. Specific to consulting on IS planning issues, problems seemed to arise from two main sources: first, the level of organizational maturity in issues like organizational processes ITG, and EA maturity, and second, making the work division and responsibilities transparent. In this study, we seek to contribute to the latter problem area.

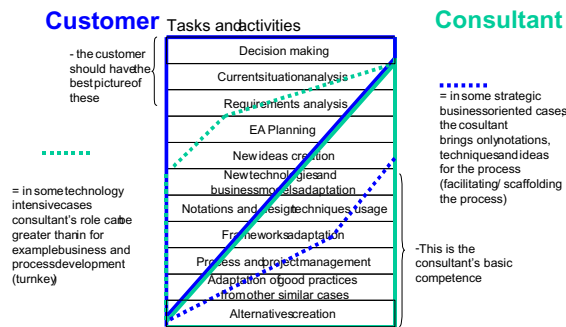


Figure 3 Client and Consultant role variations in different consulting cases.

A different level of maturity in the client organization seemed to require a different kind of approach in the planning and development. If the client's organizational maturity in ICT management is low, the consultant has to help to build the foundation for further development. In such cases, the consultants tended to be more in an operative role, because they had to take a greater responsibility due to the customer's lower competence in the area. On the other hand, organizations at higher organizational maturity levels manage their ICT assets in a comprehensive way. They had competence gained in practical experience and consultants were not needed for the development of basic issues. Instead, they provided information and support for more specific areas, like new technologies and tools. All interviewees brought up the idea that a division of responsibilities needs to be agreed on to ascertain a smooth process and a good outcome. Participation is necessary and highly recommended, but also requires different competences depending on the activity.

There were different modes of collaboration. The work of the consultant seemed to range from turnkey solutions, even a "takeover" (outsourcing) of the IT governance, to a restricted problem solving for a focused domain area. Some examples of variation:

- A user organization (Case 3) left the whole ICT governance in the hands of the consultants (outsourcing)
- For some user organizations, the assignment consisted of the design and development of a comprehensive EA solution, sometimes with information management rearrangement (E.g. cases 1, 6)
- In some cases, there was a specific focus area, often related to technology questions that needed a solution (E.g. cases 4, 5).

Role variations of the client and the provider

Further explication of the activities and tasks in consulting projects brings forth role variants presented in Figure 4. The *first* and *second variant*, information sharing and analysis (1.1.1.1 and 1.1.1.2), are services that, provide information on and analysis of information and communication technologies.

found similar user tasks: responsibility, communication, hands-on activity, evaluation and review of IS work are tasks belonging to the suggested role variations in the model (Hartwick and Barki 1997). Secondly, the end-user participation roles: client, informer and designer (Morley 1993), find support in our study. Yet the earlier participation study results do not cover the whole variety suggested in the variation model presented here. Further, and despite the similarities, considering that the tasks (Hartwick and Barki 1997) and roles (Morley 1993) were found in system projects, or projects of unspecified type, the role profiles and tasks may be interpreted differently. The end-user role (Morley 1993) did not seem relevant in consulting projects. This does not mean that end users were not involved; but typical end-user questions (e.g. system requirements, user interfaces) were not relevant in consulting projects.

As to consulting literature, our study supports Spewaks's (1992) proposed division into facilitative and operative consultants. Both main types were identified in the studied cases (Facilitative, e.g. case 7 and operative, e.g. case 3), but there is also further variation. The ideal 50/50 model proposed by Block (2000) did not receive unequivocal support in our study. Still, it is likely that a project will not be successful if the consultant is working in an operative role, but is excluded from the decision making process, which is the main idea in Block's 50/50 model. Block's ideas seem to fit best in the high involvement roles, e.g. operative consulting, where the consultant is involved with the actual change process.

However, there are cases, especially in the information facilitation role (Variant 1.1.1), where the consultant has a very limited role in the whole development effort, yet the consulting effort can still be successful. Variants 1.1.2.1, 1.1.2.2, 1.2.1 and 1.2.2 require development process understanding. This is also the area where methodologies, tools and templates (template diagrams, models, and other descriptions) are needed. These seem to be very often the consultants' responsibility (Cf. Table 1).

6 CONCLUSIONS

In this study, we have contributed with a survey of the roles, activities and tasks both of the user organization (client) and of the provider (consultant) representatives in IS/ICT planning (consulting) projects. It has been pointed out that "one size does not fit all" in consultancy services (Hirvonen 2004, Hirvonen and Pulkkinen 2003, Hirvonen et.al. 2003). The consultant must respond to the needs in a specific case with the competence and involvement needed. Also, the client has to plan ahead the roles and competencies needed for a consulting project.

Prior to our study, seminal work on the roles, activities and tasks of users in IT projects has been presented in participation research. Yet we found that firstly, it would be useful to differentiate the context of participation: what type of system is being developed. Further, in case of organizational information systems, the differentiation of the assignment (project) types would give a general framework for the research. We suggest that the target of any participation study could for example be refined according to the research framework for IS implementation (Kwon and Zmud 1987), that takes into account the organizational change phases with the IS development steps.

We conducted a two-phase qualitative study on the roles in consulting projects. First, with a set of interviews, we created a preliminary model of different tasks and role variations in IS planning projects (Figure 3). We then examined these tasks further in 9 cases, and developed a role variation model for different tasks (Figure 4). In our study, we were not only focusing on the client (user) organization representatives and their roles, but also on those of the ICT provider staff (consultants). In participation literature, we did not find this aspect taken into consideration.

Both IS and consulting literature suggest some participation models. However, we found that no single optimal participation model or best practice can be pointed out. Instead, different project types and organizational ICT user participation approaches affect the ways to organize projects and participation in them. This should be taken into account in development approaches and methodologies.

Both the ICT end-user organization, the client, and the ICT services provider should understand the development approach that is taken, and the expectations of the other party. The client cannot just wait for results to come out of the consulting project; instead the quality of the results is directly dependent on the project's goals and the client's involvement. In operative projects, the consultant's intense involvement and understanding of the client's development process is needed. On the other hand, if the consulting project focuses merely on information facilitation (e.g. on new technologies), the consultant's need to be involved in the process is lower. To collaborate successfully, both parties benefit from an agreement on the tasks and responsibilities (also competencies needed) each will have. The role variation model for consulting projects suggested is an aid for this. A restriction of the study is that the inquiries are limited to only one company within a rather short time frame. We would like to see the model tested in other contexts.

References

- Abrahamsson, P., Warsta J., Siponen, M.T. and Ronkainen, J.: New Directions on Agile Methods: A Comparative Analysis. In: The Proceedings of 25th International Conference on Software Engineering. 2003, IEEE. Pp 244-254.
- Applegate, L. M.: Managing in an Information Age: Transforming the Organization for the 1990s, In: Baskerville et al (eds), Transforming Organization with Information Technology, Amsterdam North-Holland 1994 (15-94).
- Barki, H. and Hartwick, J. Communication as a Dimension of User Participation. In: IEEE Transactions on Professional Communication, Vol 44 No1, 2001 (21-35).
- Barki, H. and Hartwick, J.: Measuring User Participation, User Involvement and User Attitude. MIS Quarterly Vol. 18 No 1 1994 (59-82).
- Bjerkens, G. and Bratteteig T.: User Participation and Democracy. A Discussion of Scandinavian Research on System Development. Scandinavian Journal of Information Systems 7/1. 1995. <http://www.ifi.uio.no/~tone/Publications/bjerk&bratt-sjis-i95.html> (Accessed: 30.9.2000)
- Block, P.: Flawless Consulting, A Guide to Getting Your Expertise used, second edition. Jossey-Bass/Preifer 2000.
- Braa, K. and Rolland, K. H.: Horizontal Information Systems: Emergent Trends and Perspectives. In: Baskerville, R., Stage, J. and DeGross, J.I.(eds.) Organizational and Social Perspectives on Information Technology. Boston: Kluwer Academic Publishers, 2000 (83-101).
- Buchanan, R. D. and Soley M.: "Aligning Enterprise Architecture and IT Investments with Corporate Goals". White Paper, META Group, Inc. 2002.
- Cavaye, A. L. M.: User Participation in System Development Revisited. Information and Management 28 1995. (311-323).
- Checkland, P. B. and Scholes, J.: Soft Systems Methodology in Action. John Wiley, 1990.
- DeSanctis, G. and Monge, P.: Introduction to the Special Issue: Communication Processes in Virtual Organizations. In: Organization Science, Vol 10 No 6, INFORMS 1999. (693-703).
- Earl, M. J.: Management Strategies for Information Technology. Prentice Hall. 1989.

- Fontana, A. and Frey, J. H.: The Interview: From Structured Questions to Negotiated Text. In: Denzi N K and Lincoln Y S: Handbook of Qualitative Research, 2nd Edition. Sage Publications 2000.
- Grønbaeck, K., Kyng, M. and Mogensen, P.: CSCW Challenges: Cooperative Design in Engineering Projects. Communications of the ACM 36. 1993. (67-77)
- Hackney, R., Burn, J. and Dhillon, G. : Challenging Assumptions for Strategic Information Systems Planning: Theoretical Perspectives. Communications of the Association for Information Systems. Volume 3, Article 9. AIS. 2000.
- Hartwick, J and Barki H: Delineating the Dimensions of User Participation: A Replication and Extension. In: System Sciences, 1997, Proceedings of the Thirtieth Hawaii International Conference on Systems Sciences. Volume: 3 , 7-10 Jan. 1997 Pages:67 – 75.
- Henderson, J. C. and Venkatraman, N.: Strategic alignment: Leveraging information technology for transforming organisations. In: IBM Systems Journal, Vol 38 No 2-3, 472-484. International Business Machines. 1999.
- Hepsø, V.: "The Social Construction and Visualization of a Norwegian Offshore Installation," in *Proceedings of the Fifth European Conference on Computer Supported Cooperative Work*, J. Hughes, W. Prinz, and T. Rodden (eds.), Kluwer, Dordrecht, Germany, 1997.
- Hirschheim, R. and Klein H: "Realizing Emancipatory Principles in Information Systems Development: The Case for ETHICS", MIS Quarterly 3. 1994. (83-111)
- Hirvonen, A.: Application Portfolio Models in Practice – a Comparative Study with Public Sector and Business Organisations. In: The Proceedings of "Information, Knowledge and Management: Re-assessing the Role of ICTs in Public and Private Organizations". A Workshop at Superior School of Public Administration, Bologna, Italy 2004.
- Hirvonen, A. and Pulkkinen, M.: Evaluation of Enterprise IT Architecture Solutions – How can an ICT consultant tell what is best for you? In: Berghout, E. and Remenyi D. (eds.): Proceedings of the 10th European Conference on Information Technology Evaluation. Management Centre International Limited 2003, pp. 327-337.
- Hirvonen, A. and Pulkkinen, M.: A Practical Approach to EA Planning and Development: the EA Management Grid. In: Abramowicz, W., BIS 2004. Proceedings of 7th International Conference on Business Information Systems. Poznan, Poland 2004, pp 284-302.
- Hirvonen, A., Ahonen, J. and Pulkkinen, M.: The Profiles of Projects Supplied by a Full-scale ICT-Services Provider. In: Seruca, I., Filipe J, Hammoudi, S. and Cordeiro, J. (eds): ICEIS 2004. Proceedings of the Sixth International Conference on Enterprise Information Systems. Porto, Portugal 2004, pp. 123-130.
- Hirvonen, A., Pulkkinen, M., Ahonen, J. and Halttunen, V.: The Gap between Strategies and Implementation – Methodic Support for EA Projects as a Bridge. In: Soliman, K.H. (ed.): E-Business and Organizations in the 21st Century. Proceedings of The 2003 International Business Information Management Conference. IBIMA 2003, pp 260-267.
- Hodder, I.: The Interpretation of Documents and Material Culture. In: Denzi, N K and Lincoln Y S (Editors): Handbook of Qualitative Research, 2nd Edition. Sage 2000.

- Ives, B. and Jarvenpaa, S.: Applications of Global Information Technology: Key Issues for Management. *MIS Quarterly*, Volume 15 Issue 1, p 33. *MIS Quarterly and The Society for Information Management* 1991.
- Kwon, T. H. and Zmud, R. W.: Unifying the Fragmented Models of Information Systems Implementation. In: Boland, R J and Hirschheim R A (eds): *Critical Issues in Information Systems Research*. Wiley & Sons 1987 (227-251).
- Kyng, M.: Scandinavian Design: Users in Product Development. *CHI'94: Celebrating Independence*. ACM 1994. (3-9)
- Mahoney, J.: New Directions, New Strategies: IT Leadership scenario. *Gartner Symposium/IT Expo*, Cannes, France, 4-7 November 2003.
- McNurlin, B. and Sprague, R. H.: *Information Systems Management in Practice*. 6th International Edition, Pearson Prentice Hall 2002.
- Morley, C.: Information Systems Development Methods and User Participation: A Contingency Approach. In: Avison, D, Kendall J E and DeGross, J I (Editors): *Human, Organizational and Social Dimensions of Information systems Development (A-24)*. Elsevier Science Publishers, IFIP 1993, (127-139).
- Muller, M. J., Wildman, D.M., White, E.A.: Taxonomy of PD Practices: A Brief Practitioner's Guide. *Communications of the ACM*, June 1993, Vol.36, No.4 , pp. 26-28.
- Mumford, E. and Henshall, D.: *A Participative Approach to Computer Systems Design*. Associated Business Press, London. 1979.
- Olle, T. W., Hagelstein, J., Rolland, C., Sol, H. G. and Van Assche, F. J. M.: Verrijn-Stuart, A A: *Information Systems Methodologies. A Framework for Understanding*. Addison-Wesley 1988.
- Peterson, R. R., O'Callaghan, R., Ribbers, P. M. A.: Information Technology Governance by Design: Investigating Hybrid Configurations and Integration Mechanisms. In: *Proceedings of the 21st International conference on Information systems, AIS, 2000* (435 – 452).
- Seltsikas, P.: Managing Global Information Strategy: Xerox. In: *ICIS 2000. Proceedings of the 21st International Conference on Information Systems AIS 2000* (791-806).
- Sohlenkamp, M., Mambrey, P., Prinz, W., Fuchs, L., Syri, A., Pankoke-Babatz, U., Klöckner, K., und Kolvenbach, S: Supporting the Distributed German Government with POLITeam. In: *International Journal of Multimedia Tools and Applications. Special Issue on Multimedia Projects in Governments*, 1999.
- Spewak, S.: *Enterprise Architecture Planning. Developing a Blueprint for Data, Applications and Technology*. Princeton University Press, Princeton. 1992.
- Spinuzzi, C: A Scandinavian Challenge, a US Response: Methodological Assumptions in Scandinavian and US Prototyping Approaches. *SIGDOC'02*, Toronto. 208-215. ACM 2002.
- The Open Group 2002: *The Open Group Architecture Framework (TOGAF) Version 8 "Enterprise Edition"*. Document Nr 1911 December 2002. The Open Group 2002. Accessed on the 13th of January, 2003 at www.opengroup.org/togaf/

Yin, R: Case study research: Design and methods (2nd ed.). Sage Publishing 1994.

Zachman, J.: "Enterprise Architecture: The Issue of the Century". [www.zifa.com zifa06.doc](http://www.zifa.com/zifa06.doc) Zachman International 2003. Accessed 30.10.2003.