

COMPETENCE DEVELOPMENT AMONG IT-CONSULTANTS: *The need for collective and structured reflection*

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Abstract: This paper is about the knowledge transferring between IT-consultants. IT-consultants are involved in many complex and challenging situations. They need to manage organisational, semantic and technical issues. Managing this complexity requires a high and a variety of competences. Examples of competences needed are business development, project management, information system development methods and techniques. An IT-consultant often makes continuous movements between different assignments and clients. The competence developed is often individually based. Individually based knowledge is not sufficient since the IT-consultants have to carry organisational working procedures. Furthermore, the competence needed is not static; it is something that should evolve dynamically. In this paper we are proposing a collective competence development approach. The collective competence development approach consists of a process model and a conceptual model. The aim of both these models is to make individual based knowledge as subject to collective reflection.

1 INTRODUCTION

IT-consultants have to face many challenging situations. They need to manage complex organisational, semantic and technical issues. Often they need to manage these demands under a strong time pressure. Facing these different situations means that they need to have a high competence within different areas and be able to integrate them in an effective manner. IT-consultants need to carry, develop and integrate different competencies such as competence about business development, project management, information system development methods and techniques.

The competition between consultancy firms makes it not enough with an individually based consult competence; rather the IT-consultants have to carry organisational working procedures. It is not sufficient with knowledgeable individuals. The different consultants of the firm should carry a (partially) joint way of working characteristic to their organisation. This way of working forms the

core organisational competence. This organisational competence is not a static phenomenon. It should evolve dynamically. It should evolve among consultants and their managers and also in interaction with the clients. A consultant firm possessing a high organisational competence is selling more than working hours; they are selling a reflected development approach. The competence of the IT-consultants is decisive concerning the outcome in the clients' organisations.

The technological development within IT is fast which entails a need of competence development among IT-consultants. This is one reason for conducting a study on competence development. Besides this "technical" motive there are other motives related to the nature of the IT-consultants' work situation. 1) IT-consultants often work individually and there are rarely planned activities for exchange of experiences. Instead, a familiar situation may be that IT-consultants randomly are meeting at the coffee machine and hastily exchange experiences. This means an ad hoc development of

joint competencies. 2) The work situation of IT-consultants is often special in several ways. It is not unusual that IT-consultants spend a lot of time outside their ordinary working place since their business is taking place at the clients' organisations. 3) IT-consultants often collaborate with clients rather than with other IT-consultants. If the IT consultant is the only representative from the IT-organisation the interaction with other consultants is limited. The character of the IT-consultants' work situation means that there is a risk that the competence resides on an individual level and will not be properly transferred to the collective or organisational level.

The listed motives above forms a base for our research question; how can development of collective competence among IT-consultants be structured? The question implies to identify means for moving away from a situation where solely individual learning is taking place to a situation where collective learning is added.

2 ACTION AND LEARNING IN ORGANISATION

There are several scholars who have described the continual learning through action. One of the most re-known models is the experiential learning cycle by Kolb (1984). He describes that learning occurs through a cycle of four phases: 1) Concrete experiences, 2) reflective observation, 3) abstract conceptualization and 4) active experimentation.

Kolb's model describes individual processes of learning. These individual processes can however be expanded to an interactional and collective level. Through dialogues, colleagues can participate in collective reflection and abstraction (Høyrum, 2004). A basic idea of our research is that group processes of dialogue and collective reflection can be essential enablers for articulating tacit knowledge.

The implicit and tacit knowledge-in-use can be articulated in processes of reflection. The starting point for this articulation is something considered problematic (Dewey 1938; Argyris & Schön, 1996); something that is part of an actor's concrete experiences (the first step in Kolb's learning cycle).

It is important to really start with the concrete experiences of an actor in the dialogue process. Otherwise there is a risk that the actor explicates his rationalizations (i.e. his private and taken-for-granted explanations) of the problematic situations and the rest of the group is not involved in reflection

from its inception. If the actor expresses his explanations in an already generalized way, neither the complexity in the problematic situation nor his colleagues are used as genuine resources in the inquiry process. Therefore it is important to start such a process with the concrete stories of problematic situations. Concrete storytelling is a good starting point for organisational learning (Abma, 2003).

Stories that have been told can be reflected on in a dialogue and conclusions can be drawn from these collective reflections (step 2 in the learning cycle). This is one step away from the concrete character of the exposed experiences. This can be taken one step further through abstraction and generalisation. New concepts and action strategies can be formulated (step 3) which later can be tested out in new organisational actions (step 4).

3. RESEARCH APPROACH

The research approach is organised as action research (e.g. Lewin, 1946; Checkland, 1991). There are different ways to describe action research. A well-known way is to describe it as a cyclical process consisting of the five recurrent phases: diagnosis, action planning, action taking, evaluation and specifying learning (Susman & Evered, 1978).

In order to answer the research question we have arranged a reflection arena. In this arena eight IT-consultants and two researcher participated. The research question (see section 1) was divided into two main questions: "how to do?" and "what to talk about?". Eight different discussion themes were used as a base. A discussion theme consist of a relevant event or recently perceived problem. Examples of themes discussed are: competence of clients, allocation of the clients' resources in projects, and the IT-consultants relation to the customer service. Each theme was analysed separately. The question of how to do resulted in a process model and the question of what to talk about resulted in a conceptual model (see section 4).

Before the study started we had a rough idea about how to proceed based on earlier experience and study of literature (see section 2). Accordingly, as this study continued, more data were gathered and the models were refined. This follows the basic idea on action research (put forth by Checkland, 1991) to continually refine frameworks. The refined models supported the conduct and the data gathering during the following reflection meetings. In this dialectical way the models had an impact on the data gathering

and the data gathered had an impact on the development of the models.

4. MODELS FOR STRUCTURING COMPETENCE DEVELOPMENT

5.1 The Process Model

The process model consists of two parts; a reflection arena and the regular business practice (see figure 1). The reflection arena consists of a group process supported by a facilitator with the following steps 1) identify challenges from concrete situations (story telling – an IT-consultant describes the challenges in a specific situation, 2) reconstruct the situation, identify conditions that obstructed the work and the tactics used, 3) identify if other IT-consultants have similar experiences and if other tactics have been used 4) collective critical reflection of used tactics and actions taken, 5) formulation of goals and values, 6) formulation of new tactics based on earlier challenges and values.

The analysis of the empirical data revealed the importance of collective articulation, abstraction and reflection. During these processes there was a collective learning since competence was transferred among the IT-consultants. Following the process, means to move from an individual competence experienced in a specific situation to a reflected abstraction that are constructed as a collective process.

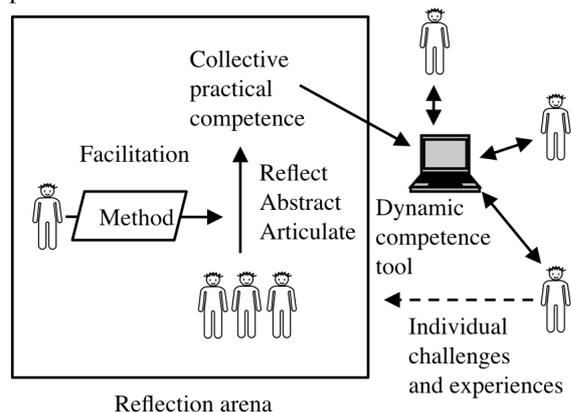


Figure 1: The process model

The facilitator supported the collective process by the use of generative questions. The aim of these

questions was to get a richer picture of the story told. Examples of such questions are: “describe the experience?”, “what actions have been taken?”, “were there any obstacles?” and “describe the tactics you used?”. These questions encouraged the IT-consultant to articulate his/her ‘tacit’ knowledge about the problem. The challenge was often recognized by other IT-consultants and by adding their experience the knowledge about the challenge expanded. The different questions posed by the researchers/facilitators supported that an individual challenge became a theme for collective reflection.

The result of the collective process should be documented in a dynamic competence tool. The dynamic competence tool should then be used in the regular practice by individual IT-consultants. New proposed tactics can in this way be tested and comments can be registered in the tool. Comments are available for all the IT-consultants in their future interaction with clients. This part of the process has not yet been investigated.

5.2 The Conceptual Model

The conceptual model concerns results about *what to articulate*. The model consists of six categories that are conceptually related to each other (see figure 2): 1) *Problem situation*: the aim of this category is to describe and delimit the theme discussed. 2) *Actors*: the aim of this category is to understand who are involved in the problem situation and which actors are communicating. 3) *Action course*: the aim of this category is to understand the communication process between the client and the IT-organisation. 4) *Problems*: the aim of this category is to identify perceived problems in the problem situation. 5) *Goals and values*: the aim of this category is to identify what the IT-organisation want to fulfil and what values that exist. 6) *Tactics*: A tactic is a particular way to conduct an action. A tactic is used in order to satisfy a need of a client or to simply solve a problem. Tactics consists of two sub-categories problem-reducing tactics and problem-reinforcing tactics

The category *problem situation* is a base for identifying involved *actors* and is contextualized in an *action course* (consisting of action conditions, actions and action results). Action course works as a base for deduce problems and goals/values. Problems are managed through the use of tactics and tactics are classified as two sub-categories; problem-reinforcing tactics and problem-reducing tactics. The problem-reinforcing tactics legitimate an incorrect behaviour according to the goals while the problem-

reducing tactics are reducing or even eliminating problems. The usage of problem-reducing tactics contributes to the fulfilment of goals/values.

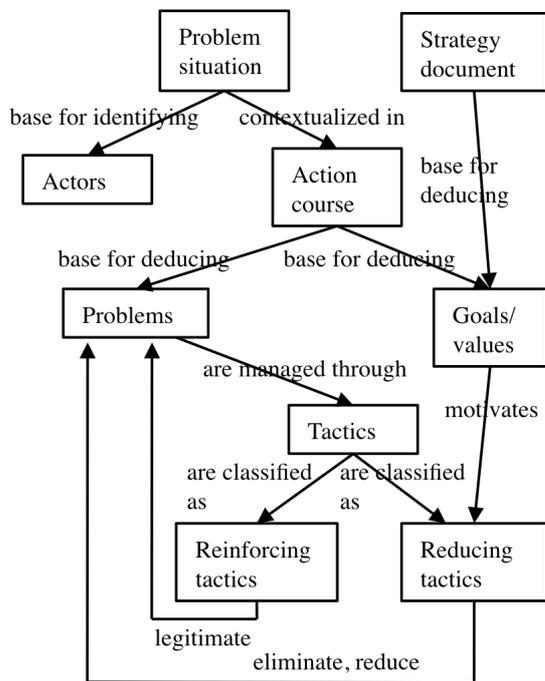


Figure 2: The conceptual model

6. CONCLUSIONS

The findings consist of an approach for organising a structured collective competence development. The main message of this approach is to move away from an ad-hoc based individual learning to a structured reflective and collective learning.

The proposed models have supported collective competence development. The conceptual model has supported the IT-consultants in making abstractions of their own concrete experiences from specific assignments. Through these abstractions it has been possible to transfer the competence to other assignments managed by colleagues. We claim that it is important to view the transferring of competence as a continuous movement back and forth between the concrete and the abstract. This means that abstract formulations can be made understandable through concrete examples and concrete examples can be used for making abstractions that are used for transferring competence to other situations. A shift in the levels of abstraction during problem solving have proved to be supportive by Wason & Johnson-Laird (1972).

According to Marsick and Watkins (1993) this type of learning is today widely accepted since learning takes places as a result of critical reflection on one's own experiences rather than as a result of formal training in remembering of dull theories. Reflecting upon own working procedures was perceived as highly motivating among the IT-consultants and the discussion themes have stimulated individual reflection and learning. Using a reflection arena is also line with theories of Dewey (1938). According to Dewey learning must address the notion of reflective thought. A reflective thought begins with an ambiguous situation that in some way represents a dilemma to an individual (Drejer, 2000).

This paper presents preliminary results. To be able to generalize, the next step is to broaden the study through adding another case (another IT-firm).

REFERENCES

- Abma T A (2003). Learning by Telling. Storytelling Workshops as an Organizational Learning Intervention, *Management Learning*, Vol 34 (2), pp 221–240
- Argyris C, Schön D (1996). *Organizational learning II - theory, method and practice*, Addison-Wesley, Reading
- Checkland P (1991). "From Framework through Experience to Learning: the essential nature of Action Research", in *Information Systems Research: Contemporary Approaches and Emergent Traditions* (Nissen H-E ed.), Elsevier, Amsterdam.
- Dewey J (1938). *Logic: The theory of inquiry*, Henry Holt, New York.
- Drejer A. (2000). Organisational learning and competence development. *The Learning Organization*, Volume 7, No 4.
- Høytrup S (2004) Reflection as a core process in organisational learning, *The Journal of Workplace Learning*, Vol. 16 (8), pp 442-454
- Kolb D A (1984) *Experiential learning. Experience as the source of learning and development*, Prentice Hall, Englewood Cliffs, NJ
- Lewin, Kurt. 1946. "Action Research and Minority Problems." *Journal of Social Issues* 2 (1946): 34-46.
- Marsick, V.J. and Watkins, K.E. (1990). *Informal and Incidental Learning in the Workplace*, Routledge & Kegan Paul, London.
- Susman G I, Evered R D (1978) An assessment of the scientific merits of action research, *Administrative Science Quarterly*, Vol 23 (4), pp 582-603
- Wason, P.C. & P.N. Johnson-Laird, (1972) *Psychology of Reasoning: Structure and Content*, Cambridge, MA: Harvard University Press.