Networks, ICT-levels and work conditions as determinants of developmental processes in SMEs

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This paper discusses how social networks and ICT-structures in combination may influence and set conditions for work environment/work organisation change processes in small and medium sized enterprises. To begin with an integrative model is presented, followed by some empirical illustrations from an ongoing research and development project including about sixty small enterprises in the northern part of Norway and Sweden. An underlying theme is that many workplace change processes are context specific: goals, how the processes are managed, and participation tend to differ between different company types.

1. Introduction

Current media discussions about social networks tend to be somewhat generalizing. In contrast to this, recent organizational research has begun to point out that different types of networks have different functions (Gargiulo and Benassi 2000), that network embeddedness may promote company performance and developmental processes up to a certain level, but that too much embeddedness may be detrimental, insulating the company from external information (Uzzi 1997) and that not all strong local networks promote social capital for SMEs (Coke and Wills 1999). Regarding the relations between ICT-development and working conditions there is also a need for clarification. Some researchers find that ergonomic and/or psychosocial tension tends to increase as the ICT-level increases in a company, others seem to find the reverse (for instance Chen and Williams 1993, Blackburn and McClue 1998, Lorentzon 1999). In an ongoing project the present authors are trying to build an integrated model including these relations (Vinberg et al., 2000:2-568), of which the first version is shown below.

Diagram 1. Some relations between networks, ICT-level and change processes.
2. Empirical illustrations

2.1 Company types and networks
Below, some empirical examples are given in order to illustrate the need for a more context-specific approach. In the present analysis data twenty-four SME workplaces are used.

Diagram 2. Product types for the workplaces in the study located in two main dimensions.

Diagram 2 shows how key persons at the workplaces have located the main products. The "simple-complex" dimension is a composite measure based on four scales. Thus, two manufacturing companies are considered to produce rather simple products in an industrial way, and four consulting companies are considered to produce more complex products in a more craft-like type of process. The six company types form a classification for the analysis pursued below.


Above network intensity means (constructed as means of six indicators of external network contacts and the supplier plus customer contacts measures for the diagram to the right) are given for the six workplace clusters. The consulting companies and construction companies seem to have less external contact intensity for both product development and work place development than the other clusters, but the picture is less clear for supplier-customer contacts.
2.2 Company types, goals for the change process and participation

The diagrams below show how two types of goals for the workplace change processes differ between the company groups. In diagram 4 goals related to creating better psychosocial conditions are summarized. Call centers-programming and technical-organizational consulting companies set a high priority on these goals, and companies in retail trade and technical systems production set a lower priority.

Diagram 4. Mean importance of psycho-social goals in the change process.
(4=main goal, 3=has a dominant position, 2=covered to some extent, 1=not covered).

Diagram 5. Mean importance of organizational change/HRM goals in the change process
(4=main goal, 3=has a dominant position, 2=covered to some extent, 1=not covered).

As to organizational change and HRM-related goals call-centers-programming companies stand out from the rest. In these companies this goal has a close to dominant position, while it is slightly covered in the technical-organizational companies. This is a contrasting picture to the one for the psycho-social goals. A multi-level participation in the change process is a beneficial condition for sustainable development (Gustavsen et al. 1996). In the diagram below an index of participation from the lowest levels in the company is plotted by an ICT-level index measuring the internet resources and more advanced ICT-facilities as computer...
systems for knowledge management. The diagram shows that there is much participation variation and also that there may be a weak negative relation with ICT-level.

![Diagram 6. Participation variation in the change process and the ICT-level at the workplace.]

3. Conclusions

The empirical examples here are preliminary results from analyses of the first measurement of a panel study, and will be refined and complemented by case study results. Even so, it seems rather safe to say that some support has been given for the idea stated in the beginning - that contextual variation is important in analyzes and intervention planning for work place development.

References


