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Knowledge-work and work-related stress

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Abstract

Work-related stress is an increasing problem in Europe. Earlier studies have stated that knowledge-work comprises working conditions which reflect a good psychosocial environment. Recent Danish studies, however, point at stress being an increasing problem in knowledge-intensive companies. These companies employ highly educated and competent people who apply their personal knowledge to generate new knowledge in close relationship with both customers and colleagues. The employees are self-managed and work in networks and decentralised structures around projects. Their working life is described as good and stimulating, but has on the other hand sides to it which can cause frustration and stress. The implication of organisational characteristics of the knowledge-intensive companies studied is a transfer of the responsibility for ones own working-life. Consequently, issues are dealt with informally, individually and incidentally. It is only when problems exist that enhanced support is offered in order to help an employee to cope or recover. As most workplace initiatives work at this tertiary level, the sources of work-related and organizational stress are not reduced or eliminated. If a company wants to initiate interventions that get to the root of the organizational stressor, it will have to employ an organisation-directed strategy. The barriers to implement stress prevention on the organizational level are numerous and complicated, as the changes involves matters which are closely tied to the employees. The opportunities are on the other more financially tangible in terms of increased efficiency, decreased sick-leave, extra time for new developments, less mistakes made, increased working capacity, quality, efficiency and productivity.

Keywords: Management of Production, Knowledge work, work-related stress, field-study, consultants, preventive actions

1. Knowledge work and work-related stress

In earlier studies, the work of academics, including knowledge-work, has not been considered a strained job as it implies a high level of influence, control, flexibility and autonomy etc. which is believed to be the central elements of a sound job. [1-3] However, a case-study [4] carried out in cooperation with a con-

sulting engineering company has shown that knowledge-workers experience stress as part of their daily work. [4]

In Denmark, a survey carried out by The National Institute of Public Health has shown that about 44% of the Danish population had experienced stress. It also pointed out that the level of stress was linear dependent to the level of education. [5] Lately another survey performed by a union has supported this conclusion by

In earlier studies, the w

stating that 28% of its members, being highly educated and primarily engaged in knowledge-intensive jobs, experienced stress on a daily basis.[6] Internationally stress is also a well-known phenomenon. At the of the century, the WHO [7] stated that more than 50% of the workers in industrialized countries complained about stress at the workplace. According to the Danish National Institute of Social Research [8] and the mentioned case study [4] there is a not sufficient knowledge about specific preventive actions which can be taken in order to solve these problems in favour of the working-life and the knowledge production.

One of the questions which thus revolve around knowledge-work is how managers and knowledge-workers should organise the work differently in order to meet the demands. Consequently, the need for tools to manage stress in the workplace is been growing, especially in companies, such as knowledge-intensive companies, as they have not been regarded to have problems associated with working-life.

1.1. Project objective

The above problem lead to the following objective of the Ph.d.study: *Which organizational design options do manager and employees have to prevent problems and stress in knowledge work in knowledge intensive companies*

1.2. Scope of study

The theoretical scope of the project consists of literature on knowledge-work, work psychology and stress plus preventive organisational actions.

There are several theoretical and empirical understandings of a knowledge-intensive company. One widespread understanding is that in these types of companies' knowledge-transfer and sharing is crucial for survival and progress. Thus, knowledge has become the competitive parameter. [9] In this study, a knowledge-intensive company is characterised by having a non-material input and output, individuals being bearers of knowledge in contrast to companies where knowledge is mainly embedded in a technology. In addition to that knowledge is acquired, processed, created, preserved and shared as part of the working process and finally sold. The product being developed and produced is based on customer needs and the level of production is highly dependent on the current market situation. [9-13] In practice, general management and

engineering consulting companies were studied as they all fell within this framework.

In this project the term stress refers to a situation in which a person is confronted with something which is regarded as a threat and cannot be dealt with effectively and manifest itself mentally[14], also described as experienced stress. The understanding of sources of work stress is based on Cooper and Payne's [15] identification of different sources of work stress together with Danish research findings labelled the "Six Golden Grains"[16]. The latter, list six psychosocial factors which constitute the most suitable framework for a safe and sound job. These prerequisites are all embedded in the organisational design represented by the "Star-model"[17] which form the foundation on which a company bases its basic choices, but also the organisational behaviour. Another important point of the model is that if an organisation wants to be effective, all the five elements of the star (strategy, structure, people practice, rewards and flow of information) must be aligned. So in a change process it is important to bear in mind the interfaces in the organisational design.

Based on a study on stress management literature, Murphy [18] suggest that three types of stress interventions can be identified. The primary interventions that are in focus in this study are characterised by aiming at work environment stressors in attempt to reduce or moderate them by developing the organisation or the work. Based on the just mentioned "Star-model" it is important to address the organisational design in this process.

1.3. Research design

The aim of the first part of the project was to gain insight into the daily practices, key activities, the organizing of the knowledge work and how occupational health and safety issues were dealt with in knowledge-intensive companies. This implied that descriptive case studies were necessary (a cross-case analysis) to understand certain phenomenon within the context of a knowledge-intensive company. [19,20]

As a result, five knowledge-intensive companies, in this case three general management and two consulting engineering companies, were studied using qualitative interviews of key-actors on all organisational levels, evenly distributed over various categories.

In the second part of the research design I chose to establish a workshop with the purpose to identify new and alternative preventive organisational changes. A

group of managers were thus invited to discuss a narrative reflecting typical problems when working with knowledge and hence try to point at plausible preventive solutions in terms of new structures, procedures and norms.[21] In my opinion a workshop would form an adequate framework for a double-loop reflection, if the mismatch between the gap of the theory in use and the espoused theory was to be highlighted. The workshop was also at the same time a tangible example of a collective “Ba” [22] creating a room for developing alternative practices in order to solve the recognised problems.

2. Characteristics of the knowledge production

In general the studied companies had a flexible organization of the knowledge work. The consultants were highly-qualified, competent, autonomous and cooperating in order to solve specific tasks as part of the knowledge work. Furthermore they had a continuous interchange with the clients in order to develop new and acceptable products. The close interaction with the customers constituted constant new, unique and complex problems/tasks to be dealt with and provided solutions for.

The organization was characterized by decentralization embedded in a matrix organisation, emphasizing freedom under responsibility and networking in order to facilitate an efficient knowledge production. The network provided an internal and informal marketplace for trading competences where the employees could recruit and be recruited to various projects. A part of the job was thus also to maintain ones network.

Besides being part of various networks and teams, there was also a tradition for understanding and solving assignments individually by the consultants' own means of qualifications and experiences. This implied that it was left to the employees themselves to seek the necessary and adequate information when needed. Therefore, the employees had a mutual interest in a knowledge pool being available to everybody whenever needed. It was also clear that knowledge was shared willingly and plainly. Knowledge was understood to be both structural and relational, depending on the respondent's organisational position.

As the core in the knowledge-production was the knowledge and competences of the self-managed employees, the companies relied heavily on the intellectual capital of the workforce in order to meet the mar-

ket and customer demands. The strategy was consequently to develop and sustain the expert workforce by recruiting highly educated and competent people and provide them with challenging tasks and projects.

It is possible to distinguish between three types of rewards which all played a part in the daily management and organisation. [23,24] The rational incentives did at first seem to play a minor role in the knowledge-work. It was instead the cultural and the mental incentives in terms of social exchange of knowledge and the unofficial recognition and trust which it gave, which was of great importance. This was due to the fact, that the respondents sought the challenge from difficult tasks and the creation of new knowledge plus the possibility to contribute and make a difference at the customers'. Thus employees see themselves as their own source for motivation. It did however become evident that the entry to the clients had a serious influence on the organisational behaviour.

This span in incentives combined with the characteristics and the identity and self-understanding of the knowledge-workers, meant that the managers were confronted with a set of challenges in order to motivate, reward, etc. One of them was to create a mutual vision and structures which were necessary in order to involve everybody and to make certain everybody worked towards the same goal. At the same time it was of vital importance to accept and create rooms for occupational pride and professionalism, flexibility etc. as these constituted central incentives in the knowledge-work.

2.1 Working-life in a knowledge- intensive company

A part of the study was to identify and describe what characterised the working-life in a knowledge-intensive company. The statements clearly illustrate that the job on the one hand comprise working conditions which supports a good psychosocial work environment. Reversely, the same factors may affect the working-life negatively including the productivity and the quality of the tasks performed.

2.1.1. Knowledge-work - a good job

Questioning their working-life, the respondents spontaneously responded that they had a job which was challenging, interesting, having with competent young people as their colleagues. It provided an inspiring atmosphere besides good friends. No assignments or days were alike, there were no routines and everyone was free to work wherever – home, headquarter or at

the customers, whenever using whatever method on a self-selected assignment. There was no set time limit for the working hours, there was however a minimum number of hours to be invoiced to the customers.

All together, as one consultant put it: *“Knowledge-work is a sovereign job, it provides you with a lot of possibilities.”*

The companies also provided various services to the consultants, for example children’s day-care, good chefs in the canteen, organic food products, clubs, company cafés, family days etc.

Analysing the interviews based on the sources of stress and the organisational design showed that working with knowledge provided the employees with conditions stated to be essential in a job with a satisfactory psychosocial work environment. [16]

2.1.2. The other side of the job

Besides being a “sovereign” job there is also another side to the job providing problematic conditions. In the following I will name a few of the described circumstances.

For several of the respondents it was a problem when one had no influence on the project recruitment process which could seem opaque. It could give the person a feeling of being alone and be stressful as ones salary was closely linked to one project performance and entry. Knowledge which was essential for a specific task and couldn’t be found causes stress and was annoying as it was ones own responsibility to find it which often was time consuming and often without a useful result. Being a “waterboy” as some had experienced was frustrating as it did not provide the person with either mental or cultural rewards just as ones professional identity was dishonoured when one had to deliver a product which one self regarded to be of poor quality, but which couldn’t be refined as the customer’s payment had set the limit.

Some stated it was stressful, others that they found it frustrating always to be ahead professionally never to be able to reach the company requirements or your own goals within the set financial frames and deadlines, loosing time due to insufficient systems, colleagues being in other places, searching in vain for knowledge which already existed.

One consultant described the snags about working with knowledge in this way: *“Freedom is an essential part of the job; however, knowledge-work eats you alive if you don’t know when and where to*

draw the line”.

2.1.3. The consequences

From a company point of view, it is evident that the work processes were influenced negatively due to the mentioned problems and stress. As a result development of new concepts, standardization of processes etc. was diminishing and the productivity decreased as valuable time and effort was put into searching for existing and relevant knowledge for example. Often the “wheel was re-invented” which obviously had an impact on the quality of the jobs performed. Some of the managers told of people that had left their job, and in one company this exchange and recruitment of new employees was told to be quite costly.

On a personal level we have seen how the respondents describe their experiences. However, none of them described themselves as having stress.

2.2. Management of problems and stress

The majority of the interviewees told instead that they had learned to cope with the dilemmas in their job and to balance the pros and cons. They had all experienced various kinds of feelings and being unable to meet the demands. In those situations most of them had reacted by trying to cope with the situation either by solving the problem causing the feelings or by adjusting themselves to the situation. This was also what the managers encouraged them to do. When a person had experienced that he was unable to deal with a concrete problem, the case studies showed that the subsequent stress interventions typically focused on the individual in terms of individual stress management and strategies termed a tertiary intervention. [18] A consequence of this was that typically the actual problem at work wasn’t addressed and dealt with in the appropriate way. Finally, the study showed that the mandatory system was neither capable of dealing with issues regarding the psychosocial work environment nor expected to.

The net result of the management practises and organisation of the knowledge-work left each individual with great responsibility for his own job performance and working-life as neither formalized opportunities for reflection were established nor the usage of the mandatory cooperative systems (shop stewards, two-party cooperative committees and OHS counsels).

3. Organisational causes

Questioning the causes of the experienced problems the respondents pointed towards two circumstances; resources and responsibility. Firstly, the employees felt that the amount of assignments did not match the resources in terms of money, time and hands. Secondly, they believed that it was their own fault and that they had to improve their ability to plan their work. That would provide them with more time leading to greater job satisfaction and better solutions. However, other causes not mentioned explicitly became evident based on the analysis. An example of the effect was the performance of internal tasks which were to ensure collective knowledge sharing, development of new concepts etc. Despite the willingness to share knowledge and the acknowledgement of its core position, the typical reward systems were characterised by having an explicit focus on the individual's performance in terms of sale and producing hours. Internal tasks could not be invoiced and were consequently not carried out as it was not rewarded in practice, neither financially nor culturally in terms of prestige, promotion etc.

This practice caused frustration, repetition of faults, and loss of time due to impeded retrieval of information among their colleagues. They felt they were left on their own to seek the necessary and adequate information when needed. This again affected the quality and the effectiveness of their work as they didn't always have the time. This again put the respondents under stress, as their professional pride was hurt.

This example shows that design policies in terms of working procedures, reward systems, people practice etc. have a mutual impact on the actual production, management, behaviour and psychosocial work environment.

3.1. Causes for management practice

Overall I found that issues of current interest like work, organisation, distribution of assignments, stress etc. were handled in an unstructured and informal manner leaving the consultants to individual coping, handling and personal responsibility to "draw the line". This strategy is termed "tertiary stress interventions" and is characterised by different "treatment" activities which try to influence the employees' behaviour and their ability to cope with stress. Thus, it is not a preventive strategy. Typically, the activities are implemented based on one's own initiative.

The transfer of responsibility for problem solving and the psychosocial working environment is caused by a combination of several organisational factors. Murphy states [18] that psychosocial issues are a private matter and therefore not automatically addressed, besides it is cheaper and easier that initiating preventive organisational changes. Both managers and colleagues also expected that one was capable of dealing with upcoming issues without involving others, as everyone were recruited to perform and expected to be self-managed based on their competences.

In addition management processes were not rewarded in the sense of prestige as the rewards both mentally and culturally were connected to the projects and development of new solutions and knowledge. Besides the managers also had their own performance targets and were thus producing managers. Consequently as one respondent described it, "*management takes place after 4.pm.*"

The result of these conditions was the lack of a shared forum for reflection and learning, sustaining the individual handling etc. Using the mandatory system was not a plausible option as the shop stewards only dealt with ergonomics and finally neither stress nor psychosocial issues were regarded as problems. Often the respondents laughed when asked about stress followed by a response like this: "*Stress is not a problem here, stress is a condition which comes with the job.*"

The consequence of this practice, where management of the problems was kept within the line-organization, was that issues were not addressed proactively and that an elitist community was formed where the employees would do anything to stay within it consequently not showing their frustrations, flaws etc. as they needed to sustain their network in order to get on new projects. As a starting point they would therefore try to cope with the situation, demonstrating a kind of Tarzan syndrome. However, if a situation came up which they could not handle, he or she might turn to a colleague or more likely wait for someone to spot the problem and offer some help.

4. Preventive actions and perspectives

Based on the above I can conclude that there is a close relationship between the organizational work, managerial style and the working environment in knowledge-intensive companies and that the management of problems and stress are dealt with individually

and informally. The claim of the project is that this approach needs to be altered towards an organisational preventive focus.

The outcome of the reflexive workshop suggested several actions which could be taken. One idea was to discuss the demands for debiting and the behaviour it caused plus the performance targets in order to find other structural and reward practices. The question of responsibility was to be cleared and visible possibilities for actions should be identified. Finally the knowledge management practices which supported the actual working processes needed to be aligned. The suggestions overall reflected structural changes and did not illustrate an understanding of the overall organisational design and the interdependence of the design elements. That lack of understanding would constitute one barrier in an actual change process. Another would be the employees who make up the competitive advantage and thus play a central role. Changes in the organizational design which would influence the knowledge-production would consequently also have an effect on the "knowledge-producers" and challenge the power structures of the company.

On the other hand if both managers and employees would acknowledge the extent of the problems and the importance of the organisational design and the impact it has on the job performance and behaviour there would be a basis for solving the problems based on a holistic approach.

The implication of this conclusion would be to carry out an action research project which explores an actual implementation of a preventive intervention.

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