

The Contribution of Self Managing Work Teams to a Learning Organization

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EDON is a company for energy distribution in the north and east of the Netherlands. Subject of the study was the work processes of the fitters and electricians. This is part of a project called 'improving effective and independent working of fitters and electricians'. The study's goal is to improve the work processes of the fitters and electricians and to bring responsibilities to a lower level in the organization.

EDON is one of the largest Energy-Distribution Companies in the Netherlands. It is an organization of 3.500 employees divided among five Regional Energy Companies (REC's). EDON was founded by a fusion of different energy companies. This scaling-up was necessary to join the international energy monopoly-game. The uniting of Europe means that EDON has to compete with foreign energy companies and this will affect their present monopoly position.

The five Regional Energy Companies (REC's) are responsible for the distribution of energy (gas, water, electricity) within their own region. The REC's are involved with the local and regional developments in their own area.

EDON wants to belong the best energy distribution companies in the Netherlands. She wants to be the best in class, quality and services. Therefore, EDON emphasizes reduction of costs, new services and new markets. The effectiveness of the work processes and employees is central to this idea. Enterprise, responsibility, enthusiasm and high quality are the desired characteristics of the employees. At this moment every hierarchical level of EDON is being tested on it's merit. EDON wants to place immediate responsibilities at the lowest levels in the organization.

Four target departments in every Regional Energy Company are involved in the project. In each department there is a severe division between a group of planning engineers and a group of fitters and electricians. Each department has it's own head. Before the scaling-up was realized, every head of department lead up to ten fitters and electricians. After the scaling-up, he had to deal with thirty or forty. At that moment the role of planning-engineer was created. This role is performed by employees who used to be either head of department, fitter or electrician. Fitters and electricians perform the job that is prepared by the planning engineers. In the old situation, the work was planned and divided every day by the head of department. In the new situation, the work is planned and divided once a week by the planning engineer. Fitters and electricians are now to be expected to plan their own work for a whole week independently. This weekly issue of work assumes specific skills by the fitters and electricians to organize their work for a whole week efficiently and independently. Training can be the right solution to support them in their new responsibilities. For this reason the project was started with the following problem formulation: *concerning weekly work issue fitters and electricians have to perform their job independently. Further research is needed to find out how independent fitters and electricians work and which training is required.*

Activities were undertaken to get a more precise formulation and to gather relevant information that could attribute to the solution of the problem. The target of this problem analysis was described as follows: *how effective and independent do fitters and electricians work in the present situation of the five regional energy companies? and which problems need to be solved to attribute to the fitter's and electrician's independence and efficiency?*

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Problem Analysis

The problem was analyzed by gathering information on five topics:

1. The internal organization: the mission, target and vision of EDON; the culture and philosophy of the organization; and interference that occur within the organization. Information was gathered by performing a document study and interviews.
2. The external environment: opportunities and threats from the environment to EDON (trends, developments, economy, politics, technologies). Information was gathered by performing a document study.
3. Work processes: the extent of the fitter's and electrician's independence and efficiency was investigated by performing his job. The work processes concerning the fitter and electrician can be divided in three phases: planning the job, performing the Job and after-care (table 1). Information was gathered by performing a written investigation and interviewing by electricians, fitters, heads of departments and planning engineers.
4. Technologies: the influence of present technologies (computers) on efficiency and independence was investigated. The planning engineer uses an information system called PMS (Project Management System). It is used for the planning of the jobs and the logistics of materials used by the electrician and fitter. The information was gathered by making interviews and attend a demonstration of PMS.

Table 1. Three phases in the work processes (Huisman, c.s., 1994)

<p>Phase I. Preliminary tasks performed by the planning engineers: The way the planning engineer performs the planning:</p> <ul style="list-style-type: none"> • check the situation on the job to determine time, costs, materials and to look for the job that has to be done • discuss costs and other things with the customer on the job; • planning of time, materials and capacity; - pre calculation of time, materials and costs; • gather designs, determine the materials and send letters; <p>Planning tasks performed by the fitters and electricians:</p> <ul style="list-style-type: none"> • gathering designs; • check the situation on the job (materials, time, etc.) • make appointments with customers <p>Phase II. Performance:</p> <ul style="list-style-type: none"> • the possibilities for the electricians and fitters to plan their jobs independently and make decisions; • visits on the job by the planning engineer or the head of department • the involvement of the head of the department with the electrician and fitter; • the number of interruptions during the performance of the job <p>Phase III. After-care:</p> <ul style="list-style-type: none"> • gathering information for the subsequent calculation • analysis of information • information on effective performance of fitters and electricians appeal to responsibilities
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In this part the results of analysis of the present situation are elaborated

No Mutual Cooperation and Openness. Most planning engineers work for themselves without consult each other. Electricians and fitters notice that planning engineers do not understand each other's work. Electricians and fitters especially take note of the fact that planning engineers are absent (day off or ill). Also, the cooperation between departments can be improved, because of the lack of a good communication and accordance.

Little Involvement and Motivation of the Fitter and Electrician to the Organization. Fitters and electricians are minimally involved with the organization. This influences their motivation. The following causes the minimum involvement and low motivation:

Weekly Work Issue. As a result of this weekly work issue fitters and electricians see each other less. Because they visit the firm less. Fitters and electricians mention the decreasing possibilities for exchanging work experiences.

Coaching on the Job. Coaching on the job by the head of department hardly takes place, because of lack of time. Planning engineers don't have enough time to visit the job, because of increasing administrative tasks. The visits of the planning engineer to the job is vary from 'once in three days' to 'once a month'. Projects and jobs are more frequently planned from drawings behind their desk.

Work Consultation. Work consultation between the head of department and the fitters and electricians can be improved. Most of the time, 'top down-announcements' are made by the head of department. This work consultation can be characterized as one-sided. Fitters and electricians are hardly involved in the consultation.

Involvement of the Head of Department with the Fitters and Electricians. The head of department has little involvement with the fitter and electrician. Though he is hierarchically spoken responsible for personal support to the fitter and electrician, he does not act in this way. He hardly sees them at all. The relationship between the head of department and the fitter and electrician is less strong than the relationship between the planning engineer and the fitter and electrician.

Top-down/organizational changes. Fitter and electricians follow a wait-and-see policy, caused by the organizational changes over the last five years. Fitters and electricians (and planning engineers) expresses that everything is decided at the top without their involvement. Fitters and electricians feel as though they are a number in the organization.

Bureaucracy. The EDON organization can be characterized as being bureaucratic. Planning engineers have to deal with a lot of forms and procedures. At least four hours a day they are occupied with administrative tasks. The planning engineers function is becoming more and more administrative.

No information on effective performance of fitters and electricians. It can be concluded that the head of departments and the planning engineers have little or no information on effective performance of the fitters and electricians. The lack of information is caused by the planning engineers, who make no clear pre and subsequent calculation of spent time, costs of materials of a project or job, and by the fitters and electricians, who hardly ever review the projects or jobs after completion. They are not aware of costs, spent time or used materials. The planning engineers or head of department do not make them aware of these things. Fitters and electricians do not have to answer to their head of department for costs, used materials or spent time.

Restrictions of the fitter's and electrician's independence and efficiency. The preparation and performance of tasks are strictly separated in the present work situation of the fitters and electricians. Usually there is one and sometimes two planning engineer(s) for every three fitter and electrician. Planning engineers tend to plan all projects and jobs to all extremes. Each day is strictly planned. The fitter and electrician need not plan their jobs as appointments with customers have already been made. Moreover they are interrupted in performing their work because of odd-jobs. The fitter and electrician do not have enough influence in the planning process and not enough room to make independent decisions. The fitters and electricians feel strongly restricted in the performance of their jobs by the planning engineers.

Problem Statement

In order to get a clear view of the problem, the problem first was expressed in terms of the present and desired situations.

In table 2 the conclusions about the present situation are summarized and at the same time a desired situation is outlined.

Table 2: Comparison of the present and desired situation of EDON.

Present situation	Desired situation
<ol style="list-style-type: none"> 1. No mutual cooperation and openness; 2. Little involvement and motivation of the fitters and electricians to the organization; 3. Bureaucracy; 4. No information on effective performance of fitters and electricians; 5. Restriction of the fitter's and electrician's independence and efficiency. 	<ol style="list-style-type: none"> 1. Mutual cooperation and openness; 2. High involvement and motivation; 3. No bureaucracy, aimed at results; 4. Information available on effective performance so that it can be improved; 5. Fitters and electricians can work independently and efficiently.

The following problem statement was agreed upon:

The present independence and efficiency of the fitters and electricians is strongly restricted. There is no information on their effective performance. The involved departments can be characterized as a bureaucratic with little mutual cooperation and openness. There is little motivation and involvement of the fitter and electrician to the organization.

Task Enrichment

We concluded that there is a severe difference between 'thinking' and 'performing'. The planning-engineer thinks for the fitters and electricians. The latter only perform their job. These severe differences influence their involvement and motivation. Task enrichment attributes to the enhancement of efficiency and independence and the involvement and motivation of the fitter and electrician. Task-enrichment can be described as *'the performance of more tasks, so that the fitters and electricians get more control over their job'*. This means that fitters and electricians should perform more planning tasks and should become more employable. Task enrichment has four great virtues.

Increasing Efficiency and Independence. The fitter or electrician is no longer dependent on the planning engineer. He plans his own work on the job instead of the planning engineer doing this. He gathers the information needed, determines the materials needed, makes appointments with customers etc. He can work independently as he makes his own diagnosis and solves the problem himself.

Less Co-ordination- and Communication Problems. Frequent communication with the planning engineer is not needed. The planning engineer has not enough time to visit the workplace and plan the job. He plans the job behind his desk. In several cases the planned job doesn't fit with the real situation that the fitter and electrician meets. So, the fitter and electrician often have to contact the planning engineer and waste a lot of time before performing their job.

Greater Responsibility and Involvement. As the fitter or electrician plans the job by himself, he will feel more responsible and involved with the job that has to be done. He has to take care that the planning matches with the performance and the calculation afterwards.

Greater Awareness of Costs. As fitters and electricians make a calculation of the costs, they will be more aware of this. The involvement with and responsibility for a good calculation is related to performing the job effectively and efficiently.

Self Managing Work Teams (SMWT)

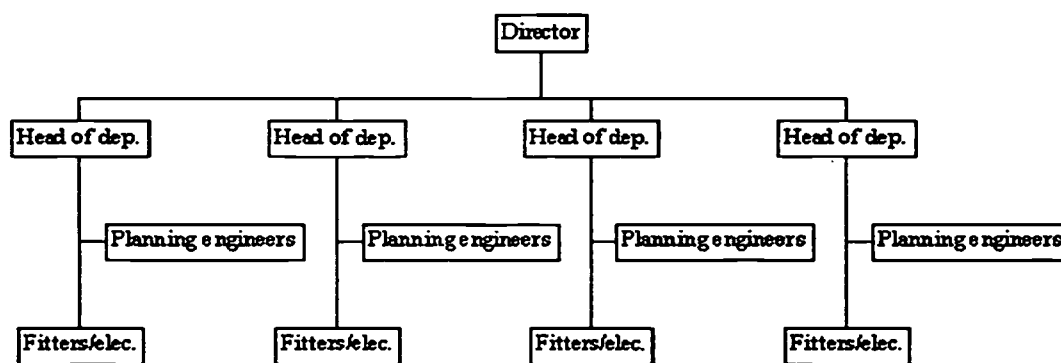
We searched for a better way to organize work and that meets task enrichment for the fitter and electrician. We searched for a work situation in which they are no longer restricted in performing their job. We studied the possibility of Self Managing Work Teams as fitters and electricians can be responsible for the whole work processes in which they are involved.

Self Managing Work Teams can be described as follows (Van Amelsvoort & Scholtes, 1994): 'a fixed group of employees who are responsible for the whole work process in which products or services are realized. The team plans and control the process, solves problems and improves processes and work methods, without constantly appeal to leading service's. According to Jooose (1990) the following results can be achieved by implementing task groups: shorter delivery time, increasing productivity saving wage expenses, increasing flexibility and decreasing absenteeism caused by illness

Three Proposals for a Better Work Situation

We made three proposals for a better work situation, in which working in SMWT's is taken as a starting point (Huisman c.s., 1995). We defined the SMWT as: 'A group of employees who are responsible for a self-contained work process. In this work process products and services of EDON will be delivered by self managing activities. It is not constantly necessary to appeal to management or supporting services. The following characteristic features had been formulated for the self managing work teams: the group will be appealed on responsibilities and performance; the optimal number of persons in the group is 8 - 12; the group will be working together during a longer period (one year); the group will be involved in effectiveness and efficiency. the group formulates group targets. These targets agree to the targets formulated by management. sons to work with self managing work teams are: shorter communication lines; greater flexibility as fitters and electricians perform more tasks; higher involvement and motivation as the group is involved in the whole work process. Another reason is the responsibility for their own performance; an increased productivity because management and responsibility lie within the group;

Figure 1: organization structure proposal I



Proposal 1. The first situation meets closely to the present situation of EDON. The present organizational structure will be maintained. The fitters and electricians work together with the same planning engineer. They form a self managing work team. Depending on the situation, the fitter and electrician perform more or less preparation tasks. The planning engineer performs the same preparation tasks as in the present situation (figure 1).

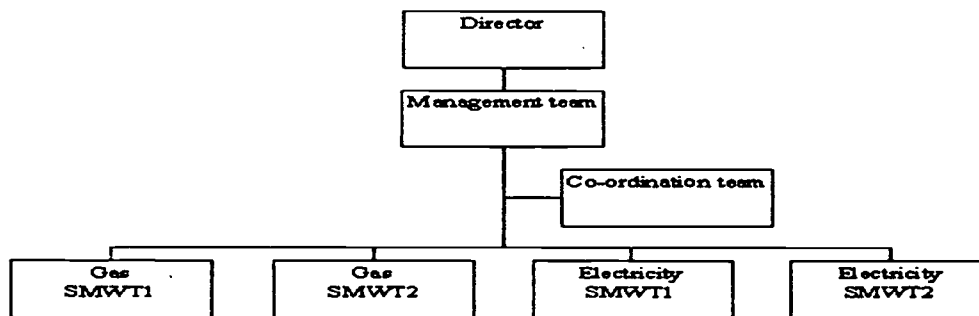
Changes in behavior will occur when the conditions and tasks of employees are changed. This proposal appeals to a change of attitude. Much depends on the initiatives that the fitter and electrician take. Much depends on the willingness of the planning engineer to create more space

for the fitter and electrician. It is to be expected that nothing will really change. Also, the present number of planning engineers will remain the same. It means that each SMWT consists of 6 persons and that the SMWT will not be flexible enough. It is to be expected that the yields of flexibility, independence and effectiveness will fail to appear.

Proposal 2. All fitters and electricians work together in a SMWT. Besides performing tasks, they will perform a number of preliminary tasks. All planning engineers work together in a coordination team. They will perform a number of preliminary tasks. All chiefs of department work together in one management team (figure 2).

Fitters and electricians perform more preliminary tasks. It is therefore to be expected that fitters and electricians will work more effective, more flexible and independent. The coordinators in the coordination team can perform each others tasks. It is to be expected that this cooperation will also attribute to more flexibility and an effective way of working. It is also to be expected that the number of planning engineers and chiefs of department can be reduced.

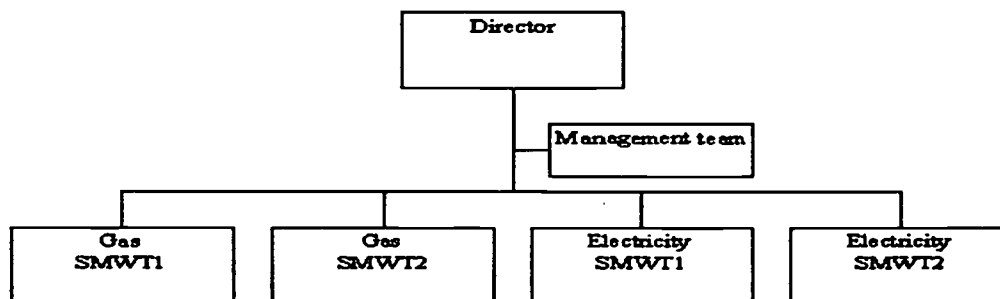
Figure 2: Organization structure proposal 2.



Proposal 3 All fitters and electricians work together in a SMWT. Besides performing tasks they will perform a number of preliminary tasks. One planning engineer is the leader of an SMWT. He performs a number of preliminary tasks. All heads of department work together in the same management team (figure 3).

It is to be expected that the SMWT in this proposal will attribute to the most flexible independent and effective way of working. The SMWT is totally responsible for preparation and preliminary tasks. The SMWT in this proposal is the most flexible and independent one. It has also the shortest communication lines. It is to be expected that the involvement and motivation will be higher than the SMWT in proposal 2. This will lead to greater effectiveness and efficiency. It is also to be expected that the number of planning engineers and heads of department can be reduced.

Figure 3: Organization structure proposal 3.



There is no doubt that proposal 3 has our preference. It is the best suited to meet the targets formulated by EDON. However proposal 3 demands a great change for the employees in performing their tasks and responsibilities. On the one side it can create much uncertainty and

resistance among the employees. On the other side it offers an interesting challenge. Proposal 3 assumes high demands on knowledge, independence and skills. This demands more attention to training consultancy, support and the elimination of resistance among employees.

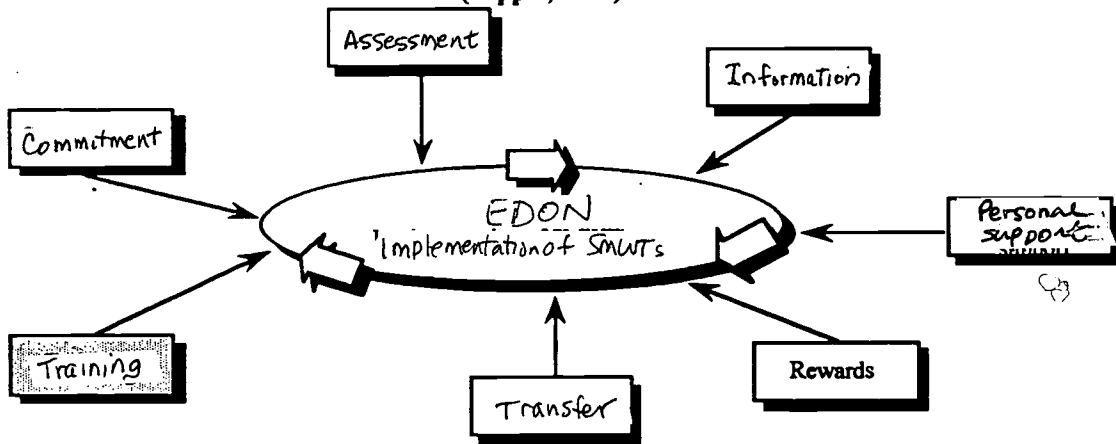
The Implementation of Self Managing Work Teams

The implementation of SMWT's can be seen as a transformation process. A transformation process aimed at transforming the organization into a learning organization. Therefore the behavior and attitude of the EDON employees has to be changed. In a learning organization work and training are strongly related to each other (Van Tellingem & Kense, 1992). Training has to contribute to improving the functioning of the employee on the job. Training is one of the interventions that are needed with organizational changes.

The implementation of SMWT's can be characterized as changing the reality. This reality is influenced by actions or interventions. An intervention can be described as '*Organized activities for the people involved in the implementation of SMWT's. These organized activities fit to the management and the organizational culture of EDON.*

An integral approach of the SMWT-implementation interventions will be most effective. During the process of change different interventions will be used (figure 4).

Figure 4. Integral use of interventions during an organization learning process (Peppel, 1994)



By implementing SMWT's in EDON, the need for training is huge. The members of the SMWT not only will have to learn new skills, but also other ways of working and communicating. The members of the SMWT have to form a team, but it takes time to become a good team. The process team building can be described as improving the individual consciousness and the development of interpersonal skills. It is important to pay attention to the process of team building at the start. The following processes need serious attention:

- handle new tasks and roles within the team
- handle new responsibilities
- handle new communication structures
- handle problems and conflicts

Management team members also need extra training as they have an important role in coaching the SMWT. This role is crucial for the fitter and electrician as they have to deal with a new work situation and new tasks. Task enrichment means adapting to unexpected situations and creating solution to unfamiliar problems. The managers have an important motivational task, they must provide necessary support and are expected to coach the fitter or electrician. Feedback is an useful instrument and enables the fitter and electrician to correct and change behavior. The coach has a hierarchical relationship

with the fitter and electrician and must be able to give positive as negative feedback as well. Also, he must be able to deal with personal problems.

A second intervention is developing commitment. At the beginning, during and after the implementation of SMWT's it is important that the change process is supported organization wide. A radical process, as the implementation of SMWT's can never survive on a few people's support alone.

It is important that the employee who is going to perform the job is competent or can be brought up to the desired competency-levels. Weaknesses in a person's functioning can be found by using assessment. Assessment is the process of gathering information in order to measure a person's competencies. Instruments used by assessment are simulations, tests and interviews. HRD plays an important role in increasing the present competency-levels.

EDON has to inform the employees about what is going to change and how this will be done. Information on changes is needed to get management approval for these changes. It is important that management convince her employees of the desirability of change and informs them on the progress. Insufficient information flows cause extra resistance.

Every changing process comes along with uncertainties. Personal disappointments are to be expected. It is important to meet these reactions and to pay attention to personal support during and after the implementation of SMWT's.

The rewarding system has to be motivating for the involved employees. It has to be a clear stimulation to improve and to learn. Rewards should not only be financial but also personal.

Transfer can be described as the extent in which learning results are put into practice after training. In this case that means that planning engineers must let go of present planning tasks must put their coaching skills into practice. While fitters and electricians must perform new planning tasks, must adapt to new situations and must invent practical solutions on the job. All this in less time and leading to better services.

Conclusions

At this moment EDON has to decide whether they take the challenge of implementing Self Managing Work Teams in its organization. SMWT's can attribute to growing to a learning organization, as it invites EDON to discuss existing norms, obstructed organizational opinions, rules and methods. The process of implementing SMWT's provides EDON with the possibility to reflect on daily experiences and improving work processes by those experiences. So EDON can become a learning organization in the nearby future.

The starting point for developing a learning organization is the awareness that an organization has to learn in a continuously changing environment. The implementation of SMWT's enables EDON to anticipate optimal on changes in it's environment and to maintain a best in class position.

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