The myth of self-managing teams

A reflection on the allocation of responsibilities between individuals, teams and the organisation

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Abstract

Concepts that include the participation and empowerment of workers are becoming increasingly important nowadays. In many of these concepts, the formal responsibility is delegated to teams. Does this imply that the normative responsibility for the actions of teams is also delegated? In this article we will reflect on the difference between holding a person accountable and bearing responsibility. A framework is elaborated in order to analyse the accountability and responsibility of teams. In this framework, the emergence of a collective mind, and the organisational factors that influence the extent to which teams have the possibility of acting in a responsible way play an important role. It shows that teams can bear responsibilities that could never be carried by a group of individuals. The framework is used to analyse two sample cases with self-managing teams in production facilities. The authors discuss the implications for the theory and practice of self-managing teams and the allocation of responsibility between individuals, teams and the organisation.

Introduction

Companies today face tremendous challenges due to market, technological and social developments. Responding to these developments, many companies try to implement new production concepts. In several production concepts – such as sociotechnical systems design, total quality management and business process reengineering - the use of self-managing teams or semi-autonomous work groups appears to be one of the building blocks of the new organisation. Companies are trying to develop more flexible team-oriented work. Surveys indicate the rapid growth of teamwork. Several surveys in the USA have shown that the number of employees in manufacturing working in self-managing teams increased from 2% in 1986 to 32% in 1992 (Appelbaum & Batt, 1995). Manz & Stewart (1997) estimate that this will rise to 40% - 50% by the year 2000. In Europe, also, the use of teamwork is increasing (Huijgen, 1997).

However, a team is not a team (Benders & Van Hootegem, 1996): there are several types of teams with varying amounts of responsibilities and authorities all bracketed under the same team label. The level of empowerment can be perceived as a continuum which starts from no, or minimal, information sharing and goes through solely information sharing, to giving advice, taking advice into consideration, joint decision

making and self management (Heller et al, 1988). This concept is visualised in figure 1. Our concept of teamwork is restricted to joint decision-making or self-management. However, the phrase self-managing team is used in many other contexts, and other terms express the same idea, such as autonomous work group and self-directed work team. When we talk about teams we imply that employees are in a situation with high levels of participation. In this concept the employees have a large influence on the decision making process and one could therefore infer that employees can also bear the responsibility for the decisions and their consequences.
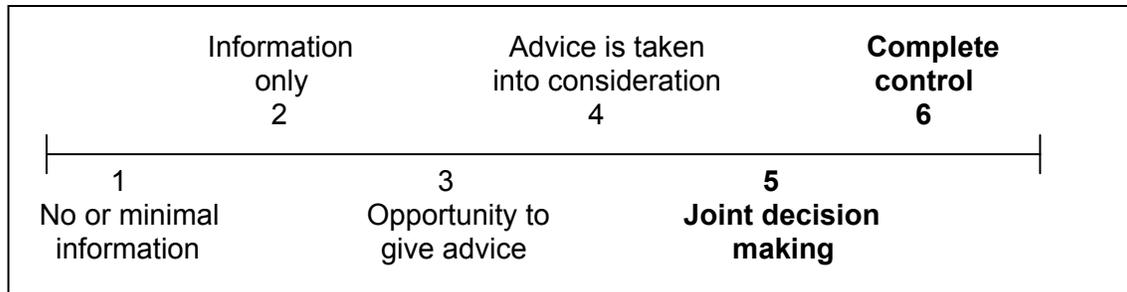
Information only 2	Advice is taken into consideration 4	**Complete control 6**
1 No or minimal information	3 Opportunity to give advice	**5 Joint decision making**

Figure 1: The influence-power continuum (Source: Heller et al, 1988, p. 34)

These team approaches in both manufacturing and service industries, pose new questions and challenges. One central question focuses on the changing nature of the process of decision-making in teams. What factors are shaping the responsibilities of self-managing teams? In self-managing teams (or self-directed work teams) "an intact group of employees is responsible for a 'whole' work process…. In other words they are responsible not only for getting work done but also for managing themselves" (Wellins, et al., 1991, p.3). This is only one example from numerous texts on self-managing teams that suggest that teams are fully responsible for their day-to-day work and for their internal functioning. These texts, which echo management rhetoric, suggest that teams do have all the opportunities and authorities needed to meet their responsibilities. In short, the freedom to act entails full responsibility. However, day-to-day practices in teamwork need not be that straightforward. Certain factors within the context of teams do influence the freedom of teams and their ability to act in a responsible way. In this article, we want to analyse these factors, indicating the preconditions required for allocating normative responsibility. We reflect on the preconditions on both the organisational level and the team level. Management books and ethical courses in general state that teams who make decisions are accountable simply because they have the authority to make the decisions. We question this view. Is this right and fair? Under what conditions does this view hold? We consider this issue to be of increasing importance given the popularity of teamwork.

In this article, we first develop a conceptual framework to describe and analyse the normative responsibilities in team decision-making. The first section defines the concept of normative responsibility and provides some preconditions for responsibility in general. In the next section we apply this to the issue of team decision-making and present our conceptual framework. Then we describe two case studies of teamwork. Using the framework, several team decisions are analysed. The final section presents the discussion and the conclusions, highlighting both theoretical and practical implications.

Normative responsibility re-examined

The concept of normative responsibility

Responsibility is a concept that is often used without defining its meaning. The etymological origin of 'responsibility' refers to the willingness or necessity to answer certain questions (Lucas, 1993). With such a description a lack of clarity remains. What questions need to be answered and what suffices as an answer? Further clarification of the concept of responsibility can be obtained through a distinction between descriptive and normative responsibility (Bovens, 1990; Lenk, 1992). Descriptive responsibility refers to the factual causing of something. The question "Who is responsible?" can be converted into "Who has caused this?". Normative responsibility on the other hand, refers to a certain expectation to act. The question "Who is responsible?" can be converted into "Who ought to take care of this?". The validity of normative responsibility is not based on a causal relation but on an imputation and judgmental criterion. This is why Lenk (1992) stresses that normative responsibility should be seen as an attributive concept ('Zuschreibungsbegriff'). Responsibility always bears on a relationship between two parties, where one party attributes an expectation to act in a certain way to another party. One option is that someone attributes responsibility to him/herself. In this sense normative responsibility is a concept that expresses itself in the judgement of a certain expectation to act. This expectation is not without obligations, unlike expectations based on taste, preferences or opinions. The actions that are expected on the basis of normative responsibility have an authoritative and binding character, at least in the view of the attributing and judgmental party.

Preconditions for responsibility

When responsibility is understood as an attributive concept, the question then arises if there are limits to the attribution of responsibility. From a theoretical point of view it is possible to assign infinite responsibility to people. However, this leads to expectations that are far too high and that can never be met in practice. In these circumstances it is not fair to hold actors accountable. Responsibility can then be dismissed on the basis of unreasonableness. Hence, although attributed responsibility can be infinite it needs to address the practical limitations. Bovens (1990, p. 171) claims that in order to be held accountable it is necessary to have the opportunity to act in a responsible way. Lenk (1992, p. 15) emphasises this position when he postulates that the freedom to act and responsibility are indivisible. The responsibility a person can reasonably bear is limited by the opportunities to fulfil the accompanying obligations. In other words "Ought implies can". Freedom to act in a responsible way is the overall precondition for responsibility. This overall condition can be divided into different aspects.

Firstly, the freedom to determine the reasons for acting, to be an intentional actor, is an essential part of bearing responsibility (French, 1984; Wempe, 1998). This emphasises the difference between 'responsibility' and 'responsiveness'. In order to be responsive it is enough to react to external stimuli. In order to act in a responsible way a

conscious evaluation should be made of the values, objectives and consequences of the different options to act.

A second precondition for bearing responsibility concerns the awareness of possible consequences. Thompson (1988) calls this the precondition of foreseeability. It extends the condition of intentionality, since it adds responsibility for consequences that were not intended but could have been envisaged. Thompson (1988, p. 556) specifies foreseeability by the responsibility of advisors: "An advisor is responsible for the consequences of decisions based on his advice insofar as he could reasonably be expected to foresee that they would follow from his advice". Jonas (1984) builds on this same precondition in his analysis of the imperative of responsibility. If it is not possible to exclude a risk of dramatic consequences, how ever small it might be, then the actors should refrain from such action because it is not possible to bear full responsibility.

The third precondition refers to the situation. The situation should include options. If an actor has no possibility of fulfilling the expectations that accompany responsibility, one can not in reasonableness attribute responsibility to the actor. In other words, in order to take on responsibility it is necessary that there are options available to act in a responsible way.

Finally, responsibility requires certain capabilities from the actor. In this respect the skills necessary to make a balanced evaluation between the different options are especially important. If an actor is not able to make such an evaluation then it is not possible to take full responsibility. The different preconditions for assuming responsibility are summarised in figure 2.

Different aspects of the freedom to act	
1. Intention-related:	conscious and intentional acting
2. Information-related:	foreseeability
3. Situation-related:	options to enable responsible acting
4. Person-related:	skills to make a conscious evaluation

Figure 2: Preconditions for being able to bear responsibility

These four aspects of the freedom to act are all necessary in taking on responsibility. Together they are also sufficient conditions for bearing responsibility. Hence, if one or more of these criteria are not met an actor cannot bear full responsibility.

A conceptual framework of normative responsibility in team decision making

Now that the preconditions for bearing responsibility have been clarified we can turn to the central theme of this article. To what extent is it possible for a self-managing team to be a fully responsible actor? Does a self-managing team meet the preconditions to have responsibility? To answer these questions, the next step is to apply the four general preconditions for responsibility to the situation in self-managing teams.

It is our view that, at least partly, self-managing teams do comply with these preconditions because certain mechanisms result in a so-called collective mind (Weick & Roberts, 1993). With such a collective mind, in reality, it is the group that acts and not the individuals in the group. However, in practice the organisational context places certain restrictions on its autonomy. We next elaborate on the concept of a collective mind and on the organisational context.

Teams as a collective mind

In literature on organisational responsibility much attention is paid to the question as to whether an abstract entity, such as an organisation, can bear responsibility. An organisation has no feelings, no conscience and cannot act by itself. Only the decision-makers within an organisation can act and evaluate the values involved. This is the basis on which Werhane (1985) claims that organisations can act only in a secondary sense. People in an organisation are the primary actors but often they act on behalf of the organisation. Hence, the reasons for acting are determined by the organisation. In this sense, corporate actions can be perceived as secondary actions because they are authorised by the charter, the goals and the directives of an organisation (Werhane, p. 55). Using the same line of reasoning, French (1984) emphasises the importance of the formal decision making structure and acknowledgement rules. These focus on the organisational interests and therefore an organisation has its own intentions distinct from the intentions of the individual employees.

These discussions on organisational responsibility are relevant in the analysis of the responsibility of a team. Team actions take place in the same organisational context and therefore the reasons for acting are partly determined by the organisation. An important point arises however when one is looking not exclusively at individuals and the organisation, but at teams as an intermediate actor. Teams consist out of individuals, just like organisations, but with teams it is possible, unlike organisations, to speak of primary actions. This is true insofar as a collective mind exists within a group.

Weick and Roberts (1993) highlight collective mental processes in situations that require continuous operational reliability. In these situations heedful co-operation between all individuals is needed in order to prevent accidents as a consequence of unexpected incidents. Such co-operation originates in the process of association between members of a group. Associating within groups consists of contributing, representing and subordinating. Members of a group determine their actions (contributing) in the light of the joint task (representing) and subservient to their social systems (subordinating). A quotation from Asch (1952, p. 251-252) clarifies the process of association:

> *There are group actions that are possible only when each participant has a representation that includes the actions of others and their relations. The respective actions converge relevantly, assist and supplement each other only when the joint situation is represented in each and when the representations are structurally similar. Only when these conditions are given can individuals subordinate themselves to the requirements of joint action. These representations, and the actions that they initiate, bring group facts into existence and produce the phenomenal solidity of group process.*

The processes of contribution, representation and subordination result in actions by members of a team as if they were one. A 'collective mind' arises that results in individual actions converging in joint action aimed at meeting the overall interest. Members of a collective mind act as if they are one. Sandelands and Stablein (1987) postulate that connections between actions are much more important for the emergence of a collective mind than connections between people. On the basis of joint experiences, shared history and other forms of interrelationships, an understanding of the social system and the actions that should be fulfilled by the group arises.

In order to use the concept of 'collective mind' in diagnosing and analysing our sample cases, we make use of the following characteristics.

- *Commitment to a critical collective task*

There should be clear, common tasks and goals for a well-defined team. For such a team with a recognisable identity, members should be willing to 'fight' for each other. Especially in the case of incidents or non-routine activities, members of the team should be committed to the task of the team and the relationships within it. To the extent that this is the case, we may call it the subordination of the individual to the team.

- *Heedful interrelating*

In critical situations no member of the team will have a clear overview of the total situation and, because of the autonomy of the team, there will be no commanding leader. By interacting in a heedful way, individuals contribute to what can be characterised as a collective action. A process of hierarchical control would not work. Structural and technical conditions can only facilitate effective team action. Where absolute control is required we need to consider also softer aspects such as heedfulness, care, trust, respect and commitment. In fact, this looks like a paradox: full control is only possible by accepting the imperfections of system-technical and structural options. In addition, heedful interrelating also implies a redundancy of functions. People should be willing and able to replace others if necessary. This type of behaviour should be motivated by the desire to act in the interest of the team as a whole.

- *Balancing standardised behaviour and improvisation*

With teams sharing a collective mind, there will be long and strong collective experiences in co-operation, both in training situations and in practice. So, to a large extent behaviour and interrelationships will be standardised and therefore predictable. Language (signs, terms, behaviour) will have a common and clear understanding. This standardisation will create the necessary sound base for collective improvisation, for creative and intelligent collective action.

These characteristics that result in a collective mind have important implications for the attribution of responsibility. Many tasks in organisations are too complex to be performed by individuals. Therefore individuals cannot have responsibility for these actions. However, as a team, they might have the necessary skills, be able to see the consequences, have enough options, and intend to act in a responsible way. This requires heedful co-operation between the team members based on a collective mind. In this

respect, we can state that teams, and not individuals or the organisation, can have responsibility for certain actions.

Influence of organisational factors

Although the name suggests that it is the case, self-managing teams can never be completely free. Since teams always operate within an organisation, they always have to act within an organisational context. All four preconditions for bearing responsibility are influenced by the organisational context. Autonomous teams might have the formal authority to make decisions, but there are many organisational factors that influence the decision making process. For example, the access to relevant information and the available equipment within the organisation are important factors. Suggesting that employees can bear full responsibility is unreasonable when these factors are not taken into account. Hence, for the purposes of this article it is necessary to describe the effects of the organisational context on the decision making process.

We are not aware of any publication that presents the relevant factors of the organisational context in a structured manner. Therefore, we will try to provide an overview of the effects of the organisational context by taking elements from publications that highlight single aspects of the organisational context and combining them to form our framework.

- *Norms and values of the organisation*

The precondition of intentional action is influenced most of all by the norms and values that are emphasised within an organisation. Taking responsibility requires a conscious and balanced evaluation of the values, objectives and consequences of each option. As functionaries of an organisation, employees should act on behalf of the organisation and, moreover, monitoring and reward systems should ensure that they will act in the organisation's interests. The reward systems are not limited to the formal systems. Decision-makers have many relationships with superiors, colleagues and customers. If these people do not approve of what seems to be responsible behaviour, even if it meets the official organisational norms, it is difficult for the decision-makers to act in what they believe to be a responsible manner (compare Jackall, 1988). Hence, the values that are emphasised in the tradition, culture and structure of an organisation have a compelling influence on the decision making of employees. For example, it is difficult to include other values if an organisation focuses on, and rewards only, short-term economic results.

- *Procedures for decision-making*

The organisational context also influences the possibility of taking responsible decisions by its procedures for decision-making. This refers not only to the formal distribution of tasks, authorities and responsibilities, but also to the procedural arrangements for decision-making, such as assemblies, voting structures and consultative bodies. This organisational factor influences the preconditions of intentionality and the availability of options. For example, if employees have no authority to participate in the decision-making process they cannot take responsibility for the decisions. In this paper, we focus on team decision-making and therefore, by definition, the condition of formal authority

has been met. However, the decision-making process has to fit with this formal authority, and so it is still of value to look at other parts of the decision-making procedure.

- *Training and selection*

Thirdly, an organisation can influence the skills of a team (person-related). This is becoming more important as the complexity of production processes increases. Because of this, it could become too difficult to consider all the relevant aspects of decision making. In several organisations there are *training programmes* for employees in order to ensure that decision-makers have the necessary skills to make the right decisions. Also in the selection of new functionaries, an organisation can influence the degree to which the decision-makers have the skills necessary to act in a responsible way (Bovens, 1990). Finally, the skills for responsible acting are influenced by the procedures for decision making. In this respect, the possibilities of co-operation and advice should be addressed.

- *Availability of resources*

The precondition that an actor should have options to enable him or her to act in a responsible way is especially influenced by the *availability of resources.* The central question here is whether the organisation has provided enough means to facilitate the decision-makers acting in a responsible way (situation-related). The means to act can be divided into four categories: information, money, existing equipment and time. First of all, the decision-makers need to have access to **the relevant information**. In order to consider all the aspects involved, it is necessary to know the situation, to know the alternatives and to have knowledge of the possible consequences and the risks attached to them (information-related: foreseeability). In complex situations it is often questionable whether empowered employees actually have this overview since it is difficult to have sufficient knowledge of the whole situation. A second important means is the availability of **sufficient financial resources**. In team decision-making, the employees should have a budget sufficient to choose the most responsible alternative. If an organisation does not allocate adequate resources to follow up the most responsible alternative, then responsibility for the final decision should also be placed partly on the organisation. Thirdly, the empowered employees have to work with **the existing equipment**. If this equipment is not adequate, it might prove impossible for employees to act in a responsible way. Finally, the **availability of time** is the fourth resource that should be addressed in order to be able to allocate full responsibility. The division of tasks, authorities and responsibilities can all be adequately arranged, but if employees do not have enough time to fulfil their tasks, then it is not fair to make them fully responsible.

Conceptual Framework

The distinction between the individual, the team and the organisational level in terms of responsibility can be summarised in a conceptual framework (Figure 3).

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│  │         Organisational factors            │                        │
│  │  • norms and values of the organisation   │                        │
│  │  • procedures for decision making         │     Organisational level│
│  │  • training and selection                 │                        │
│  │  • availability of resources              │                        │
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│                       │                                                │
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│  ┌──────────────────────────────────────────────┐                    │
│  │              Collective mind                   │                    │
│  │       (characteristics of collective mind:     │                    │
│  │  commitment to a critical task, heedful        │     Team level      │
│  │  interrelating                                 │                    │
│  │  and balancing standardisation and improvisation)│                  │
│  └──────────────────────────────────────────────┘                    │
│                       ▲                                                │
│  ┌──────────────────────────────┐                                     │
│  │       Individual factors      │              Individual level        │
│  │  • qualification              │                                     │
│  │  • identification             │                                     │
│  │  • motivation                 │                                     │
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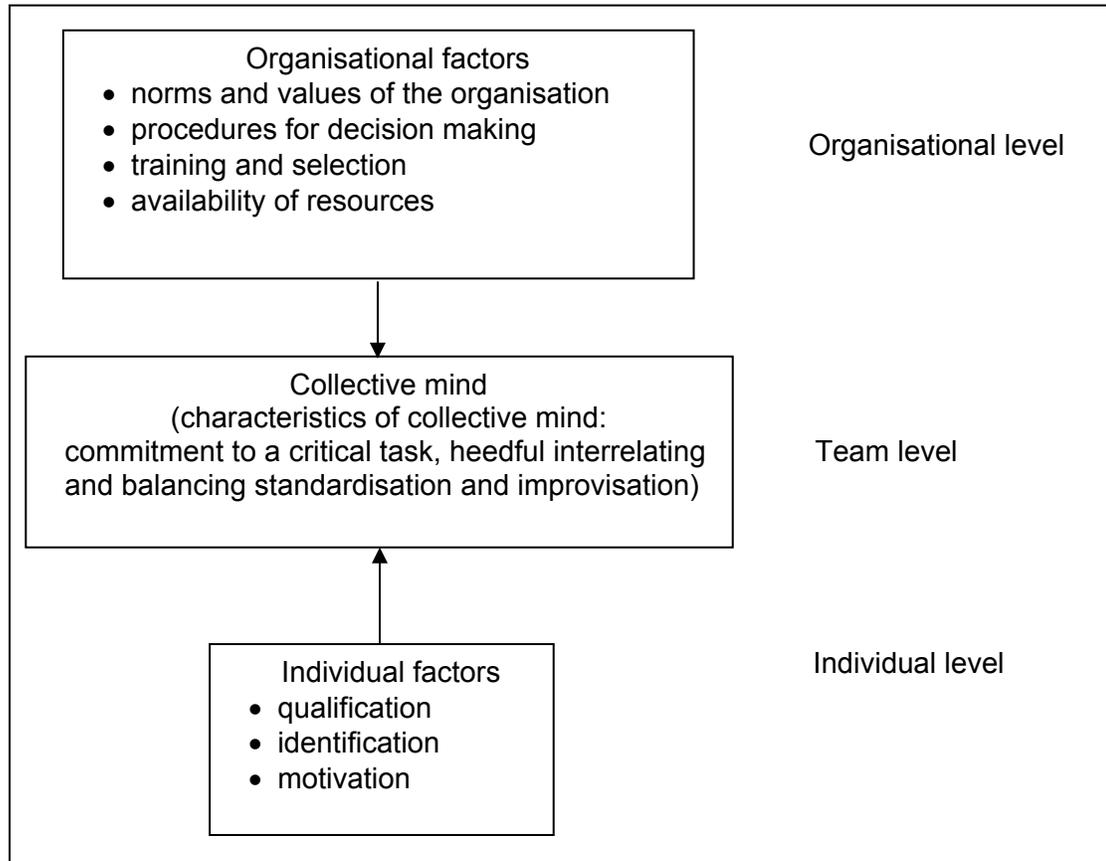
Figure 3: Conceptual framework of preconditions for team responsibility

This framework emphasises the necessity of a collective mind for having responsibility at the team level. A collective mind makes it possible to attribute responsibility to a team. An important idea with self-managing teams is that only those teams with a collective mind can carry responsibilities. In complex and continuously changing situations it is not possible for an individual, or a group of individuals, to have a complete overview and to fulfil the overall task. To achieve this, the individual employees have to contribute as a collective. It is the existence of a collective mind that enables the team to perform the task.

Furthermore, the framework demonstrates that actions at the team level are restricted by both individual and organisational factors. On the individual level, the qualifications, identification and motivation of the team members should be sufficient to enable a collective mind to emerge. The individual factors constitute the foundation for the processes on the team level. In this article we do not focus on the individual level rather, we concentrate on the organisational level, emphasising the norms and values of

an organisation, procedures for decision-making, training and selection, and resource availability. If the organisational context does not facilitate responsible behaviour it is impossible to attribute responsibility. In short, the framework emphasises two central elements for having responsibility at the team level: the development of a collective mind, and the extent to which the organisational context facilitates responsible acting.

Next, we will apply this framework to two cases. In these case studies we analyse the possibility of self-managing teams bearing responsibility.

Case studies

In this section we hope to illustrate the distinction between accountability and responsibility at the team level by analysing two cases using our framework. The first instance refers to a more-or-less crisis situation and the second to normal operational conditions. The two companies have been involved in a larger research project on the issue of the contribution of self-managing teams to innovation (De Leede, 1997).

Case 1: Illegal draining of chlorine

In the first case we want to analyse an illegal draining of chlorine. It concerns a production plant of a multinational chemical corporation. The main products of this particular plant are chlorine, lye and hydrochloric acid. The chemical plant operates continuously and the plant operators work a five-shift system. The plant has four hierarchical layers. Each shift, which is a team in itself, has a teamleader who reports to the production manager. At the top of the hierarchy is the plant manager. At the time of the incident, in 1992, about 75 people worked at the plant.

Each shift is responsible for the operation of the plant. That is, the shift operators have to monitor the equipment and to intervene when problems occur. This is typical of chemical process operations. For about 99% of the time the work consists of controlling and observing, which looks like relaxed work, but the other 1% of the time is spent on fire fighting. The shifts do not only have the formal responsibilities for the quantity and quality of the operations, they are also responsible for the safety of the production process in terms of health, safety and environment. That is, the production manager is responsible, but he delegates this responsibility to the shifts. They have to control the production process. Furthermore, the shift workers work at nights and during the weekends and holidays, when the production manager is not present.

Once, a near-accident occurred following the illegal draining off of chlorine. The amount of chlorine that was dispersed was not sufficient to endanger the human environment, "only" the fish in the canal were killed. It is clear that the amount drained off was beyond the agreed standards. Now the issue of responsibility: who was to blame for it? According to the organisational handbook, the entire shift at work at the time has the prime responsibility. The shift leader is accountable. But who is really accountable for this failure? The individual operator, the shift leader or the entire shift? The production manager, or the staff in the Quality, Health, Safety & Environment Department? We will address this issue using our conceptual framework. First we

analyse the organisational factors and, secondly, we assess to what extent these teams are operating with a collective mind.

The first organisational factor concerns the central norms and values. A frequent expression is "this is not a lemonade factory". That is although production pressures are usually high, the management and shift teams both continue to view safety and the environment as their first priority. The awareness that chlorine is a dangerous product is very prominent, reinforced by environmental action groups. There is much organisational support for this awareness.

The second factor has to do with the procedures for decision-making. The team is responsible for the on-going process of chlorine production. They also have the proper authorities to operate and control the process. Virtually every possible situation is carefully described in handbooks with the appropriate procedures to follow. This is a tangible result of the central norms and values.

The third factor, having the necessary skills, is also influenced by this awareness. The company has extensive training programmes on the technical skills necessary to operate the process in a safe way. Training for special and potentially dangerous events is included in this programme. In the company reward system, the ability to handle such situations is one of the key criteria.

What about our fourth factor, resource availability? We already noted that information and money resources are sufficient. The procedures to handle non-standard events are available and accessible to every operator, and the operators are well trained in using them. Concerning this event, the financial aspect is of minor importance. At the time of the incident the operators were not engaged in special activities, such as maintenance or training, so the criterion of time availability was also met. We are less sure about the existing equipment since we were unable to judge it. We did not have sufficient information on possible malfunctioning alert mechanisms or other equipment breakdowns. Maybe, a technical failure was the cause of the chlorine draining into the river. The only other possibility is a human error, leading to the draining off. If this is the case, then the team is responsible and accountable for it.

Apart from in the event of a technical failure, our analysis of the organisational factors indicates that the team should bear full responsibility for the incident. However, the question of team or individual responsibility is not fully addressed without analysing the presence or otherwise of a collective mind.

It is difficult to provide valid statements on the first characteristic: the commitment of all team members to their critical task. However, according to the management and the shift leaders it is possible to speak of committed operators. Especially in the event of (near) emergencies the operators work closely together and they are committed to operating the plant in a safe way. The central norms and values on safety and environment aspects were internalised, according to employee motivation surveys.

The second characteristic of a collective mind, heedful interrelating, is only present to a certain degree in these teams. Although there is a sufficient redundancy of functions, the degree of trust, heedfulness and commitment to each other are only moderate according to employee motivation surveys. Several training programmes have been set up to improve these attitudes and behaviours.

The third characteristic, the balance between standardised behaviour and improvisation, does apply in this case. There is much training, education and collective experience in at least the technical functions of operating a chlorine factory. In crisis situations the shift members have been shown to co-operate in order to limit the health and environmental damage.

Our analysis therefore indicates the presence, at least to some extent, of a collective mind. Therefore, we can conclude that the teams are responsible and accountable for their actions, with the reservation regarding some uncertain aspects such as existing equipment.

Case 2: Performance indicators

This manufacturing company operates in the central heating market having started production in 1987. Following rapid growth, at the end of 1992 the management decided to restructure the organisation while maintaining the pioneering culture. They introduced the concept of self-managing teams in the production department. Seven teams were created, each responsible for a complete part of the assembly process. The direct support functions (maintenance, quality and storage) were integrated into the production department ensuring close links with the self-managing teams, albeit separate from them. About 150 people work in the plant, 45 of them are production workers on permanent contract and 30 of them are production workers with a temporary contract.

The self-managing teams are responsible for the quantity and quality of the central heating boiler (sub)assemblies. The company, in co-operation with the teams, has developed a performance measurement system. Three main performance indicators are in use: efficiency, production quality and sick rate. The teams have performed very well on the basis of these indicators. In 1995 the indicators for efficiency and production quality were almost 100 %. Only the sick rate was a little disappointing but this was due to some special long-term cases. Nothing wrong, you could therefore conclude. However when the production manager left and was replaced, the new production manager wanted to increase production and tried to exert increased pressure, although maintaining the relative autonomy of the self-managing teams. He was unsure whether the teams could cope with the responsibilities. For instance he got frustrated with the teams because they were stretching breaks. He wanted to interfere, but thought he could not because of the autonomy of the teams. Let us analyse this situation with our framework, first the organisational factors and then for the presence of a collective mind.

The first factor is somewhat unusual. The norms and values are still those of a pioneering situation. The culture in this plant can be typified as working hard when it is required. The climate of "working hard when necessary" is supported by management and other staff, although there is a large gap between production and office staff. There is some dissatisfaction within production because of perceived failures on the office side, for instance delay in the start-up of production of a new heater, and also over the desire of the new production manager to increase production performance.

The second factor, procedures for decision making, is not a problem. Because of the pioneering stage heritage not many procedures are clearly transcribed. However, the

performance measurement system is very clear to everyone and the self-managing teams perform very well according to the indicators.

The third factor, necessary skills, is also not a problem. The production workers are well trained and sufficiently educated to perform their tasks. They are also able to make balanced judgements on the basis of their performance indicators.

The fourth factor deals with the availability of sufficient resources. Both financial and time resources, as well as the physical means, are available in sufficient quantities to meet performance standards. Information resources are more complex in this case. Based on the information relevant to the performance measurement system the self-managing teams assessed their performance as being sufficient. However, the new production manager did not appreciate their performance to the same extent. He had some additional information on market performance (excessive service costs due to poor quality of certain product parts, new competition). He evaluated the teams on aspects where they did not match with his perception of external performance criteria. However, the teams themselves did not have the same information, and moreover this information was not contained within the formal performance measurement system. In short, the production manager based team accountability on a different set of indicators to the team's own set of indicators.

The issue of a collective mind must be analysed at the team level, because of differences between teams as shown in our surveys (De Leede, 1997). Some teams really are committed to their task and to each other. They co-operate and try to improve day-to-day work processes. Other teams perform less well in terms of commitment. In these teams, the team co-ordinators behave similarly to hierarchical supervisors.

Also concerning the second characteristic of a collective mind, heedful interrelating, the teams show differences. Each team has sufficient redundancy of functions, but in teams with high levels of trust, respect and heedfulness, the employees rotate more frequently and co-operate better than in teams with low ratings on these issues.

The third characteristic is of only limited importance in this case, because the teams perform only routine assembly tasks, with very little room for improvisation. The employees are only trained in standard production matters. The inputs for their processes are controlled by store personnel. Exceptional problems in their processes are resolved by specialists.

We conclude that only some of the self-managing teams show behaviour patterns similar to a collective mind. However, the inconsistency found in access to relevant information bears on the issue of team responsibility. The teams, whether or not operating with a collective mind, can hardly be held accountable for their actions while their performance measurement system is not in line with the market perceptions of the new production manager.

Discussion and conclusions

In this section we discuss the conceptual framework and the cases we have described. In this article we have reflected on the issue as to whether responsibility, when delegated to

self-managing teams, equals accountability. We have shown that it is not. Delegation of authority to self-managing teams is not enough to make them accountable. A set of preconditions was determined, apart from the delegation of authority, which has to be met in order for teams to be able to act in a responsible way and then justifiably to be held accountable. In cases of joint decision-making, and even in cases of self-management, some preconditions exist. Team responsibility requires a collective mind and appropriate organisational factors if the delegation of responsibility is to be taken seriously. Otherwise, teams cannot be held accountable and the team's responsibilities are only limited. Mainstream literature on empowerment *often ignores these preconditions*. Fashionable publications on teams promote the idea that it is just a case of delegating responsibilities to teams (Wellins, et al., 1991; Katzenbach & Smith, 1993), even if they state that empowerment also includes authorities and physical means. One exception is perhaps sociotechnical theory. Sociotechnical theory uses an overall perspective of an organisation and stresses that the delegation of responsibility should be connected with changes in the fields of training, reward systems, authority distribution and availability of resources (Trist, 1981; De Sitter, et al, 1997). Our identification of the influences of the norms of an organisation and the emergence of a collective mind are additions to this line of theory. It might be worthwhile to investigate whether an integration of these factors into sociotechnical theory improves the real empowerment of self-managing teams.

A second conclusion refers to the usefulness of our framework. The two case descriptions have illustrated its *potential for analysing the allocation of responsibilities within team settings*. All relevant factors can be described and the analysis makes the issue of responsibility clear. In the first case the analysis reduced the possible factors to technical or human errors, for which both the teams and the organisation would have been responsible. In the second case, the analysis pointed to the unequal availability of information resources, leading to a different assessment of the teams' performance by the production manager and the self-managing teams themselves. Our framework has the potential to provide clarity on the issue of team responsibility and readiness for discussion. It should be noted that we have concentrated on the team and organisational levels and only touched upon the characteristics of the individual level. To extend our framework, further research is needed on the characteristics of the individual in relation to the emergence of a collective mind.

We realise that we have developed a detailed and demanding framework. Team responsibility requires a collective mind and appropriate organisational factors. In practice, these criteria are rarely met and therefore we believe it is justifiable to speak about '*the myth of self managing teams*'. "Empowered" teams resemble far too often groups of individuals without both a collective mind and the means to act in a joint and responsible way. From this perspective it is not surprising that many organisations that have introduced teamwork with high expectations have been disappointed with the performance. It is understandable that this often leads to the dismantling of the teams. On the other hand, our framework highlights the importance of the emergence of a collective mind. Therefore, if the functioning and performance of teams are unsatisfactory, this would suggest that an enforced attempt to enable a collective mind to emerge should take place through facilitating this from both the individual and organisational sides.

The analysis of collective team acting points to the possibility of attributing responsibility to teams. The necessity of a collective mind, and the overview of organisational factors, show that certain preconditions have to be met. *The absence of these preconditions restrict the opportunity to place responsibility at the team level*. If a collective mind is absent, responsibility can only be taken by individuals. This is often an undesirable situation since we have argued that a team with a collective mind can carry responsibilities that can never be met by a group of individuals. If one or more of the organisational factors impede responsible behaviour by teams, the organisation must be held partly accountable even when the formal responsibility is delegated to the teams. It should be noted that the restricting conditions imposed by the organisational context do not relieve teams and individual employees of all responsibility. Even in situations where the scope for acting is extremely small, the decision-makers still have several options. Firstly, they have the option not to co-operate, they can choose not to go along because they cannot be responsible for actions. Secondly actors, who are not in a position to meet certain responsibilities, have the option of trying to change the constraining organisational factors. They may not be able to enforce such changes but they can at least make the necessity for change known to decision-makers with more power.

The final point of discussion refers to the limits of the applicability of our framework. Weick and Roberts developed the notion of a collective mind in a complex situation where extreme reliability is required. In such a situation a collective mind is essential to perform the necessary actions. We believe that this notion is *applicable to a much broader range of situations*. Nowadays, high competitive pressure is a common characteristic of organisations. Several market requirements need to be fulfilled at the same time. There is no time to waste. The right things should be done the right way and they should be done right the first time. Companies have to aim for 'zero defects' (Crosby, 1979) by preventing errors and encouraging mutual support when incidents occur. The traditional control by senior management based on hierarchical and authoritative command structures is not appropriate for dealing with the requirements of the present organisational complexity. Increasingly, managers need to build on and, even harder, trust the contributions of all the members involved in the joint task. For this, the emergence of a collective mind is essential.

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