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Strategic Change

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Five strategies for improving group effectiveness

The purpose of this paper is to present five strategies that can help organizations improve productivity in decision making and problem solving groups. These strategies are:

- *Developing and building teams with the appropriate participants.*
- *Undertaking techniques that will improve and enhance team creativity.*
- *Coaching the team members and training them to improve their behaviour, communication and thinking skills.*
- *Planning the team event and supporting the meeting by using effective facilitation techniques and interventions.*
- *Utilizing the appropriate technology in order to improve communication, idea generation and group memory.*

Introduction

The need to improve group performance is of longstanding concern to organizations, managers and researchers, as well as having strong practical relevance. Historically, there has been a long tradition of group research, which has tended to focus on improving communication, productivity and a variety of group level efficiencies in an attempt to enhance group effectiveness (Osborn, 1957; Diehl and Stroebe, 1987; DeSanctis and Gallupe, 1987).

The aim of this paper is to investigate some of the processes, tools and techniques that have been used to improve group performance

and to develop a framework that will help teams to become more effective. In addition, the paper also discusses the relative merits, as well as the functional weaknesses of these techniques. The next section of this paper discusses a number of strategies for improving group effectiveness.

Improving group effectiveness

Team productivity can be influenced by a number of factors. Briggs and Nunamaker (1996), for example, suggest that the productivity of groups is affected by the following variables:

- Goal congruence—participants develop the same goals so that they can pull in the same direction at the same time.
- Deliberation—participants must learn to reflect, think and calculate effectively and in a structured and creative manner.
- Communication—participants must be able to talk and to listen effectively.
- Information access—participants must be able to capture information effectively.
- Distractions—distractions can severely affect the productivity of the group. They should therefore be kept to a minimum.

McFadzean (1998a) and McFadzean *et al.* (1999) have made two additions to this list, namely process congruence and trust. The whole group must reach an agreement regarding the tools and techniques that are to be utilized during the meeting. Members who are not comfortable in using certain creative problem solving techniques or certain pieces of technology, for example, will tend to utilize them inappropriately, and thus ineffectively, or will not use them at all. In addition, high-performing groups must develop a high degree of trust and commitment. This will ensure that the participants will communicate openly and honestly and will be willing to utilize techniques that may be seen as uncomfortable.

In order to develop an effective team and a high quality product, therefore, the aforementioned variables must be actively manipulated. This can be achieved by developing the people involved, improving the group process and forming an appropriate culture. The following variables, therefore, need to be explicitly managed by the organization:

- Building an effective team
- Utilizing creative problem solving techniques
- Using process consultation and coaching
- Facilitating and supporting the team
- Utilizing the appropriate technology

These are discussed in more detail.

Team building

The concept of team building can locate its origins in the evolutionary changes that were occurring in organizational development in the early part of the twentieth century (DeSanctis and Gallupe, 1987). Team building was seen as an attempt to fulfil the twin objectives of meeting organizational goals while also satisfying individual needs (McKenna, 1996).

In team building, attempts are made to improve group functioning by helping members to learn to work together through changing structural factors such as norms, patterns of interaction and roles. Dyer (1987) notes that team building is not a single action but should be conceived of as a holistic process.

In its development a group is believed to pass through four main stages in a set sequence, with each stage containing both task-related and social considerations (Tuckman, 1965). The four stages are:

1. *Forming*: At this stage the group's primary consideration is to focus on the objectives and establish how best to achieve them with the available resources. Socially, members begin to develop behaviour most suited to managing the task and achieving the objectives.
2. *Storming*: Initially the individual may experience a mismatch between the

demands of the job and his/her interpretation of what the job entails. This can create 'task resistance'. Socially, opinions begin to polarize, particularly on interpersonal issues, and individuals begin to focus on their own needs above those of the group.

3. *Norming*: Begins with an open exchange of views and opinions. The process is characterized by a willingness to cooperate with other group members. Socially, normative standards begin to be developed, and there is a conscious effort to harmonize the process and avoid conflict.
4. *Performing*: Solutions begin to emerge and objectives are met. Socially, the group develops a cohesive focus, with high levels of support and flexibility. The group's primary objective centres on problem resolution.

A number of studies contest Tuckman's view of team building, and suggest that there is very little evidence to show that groups develop or evolve in such a linear fashion (Dipboye *et al*., 1994). They also contest the deterministic nature of the model, by arguing that group progression may not be as clearly distinguishable as proposed by Tuckman (Katz, 1982). Furthermore, many groups may never develop past the early stages of Tuckman's model, or miss some stages out altogether (Gersick, 1988). Woodcock (1979), for instance, envisages the process as being considerably more fluid and interactive, as well as less deterministic, with groups moving freely between stages.

McFadzean (1998a) suggests that teams need to be developed through different stages if they

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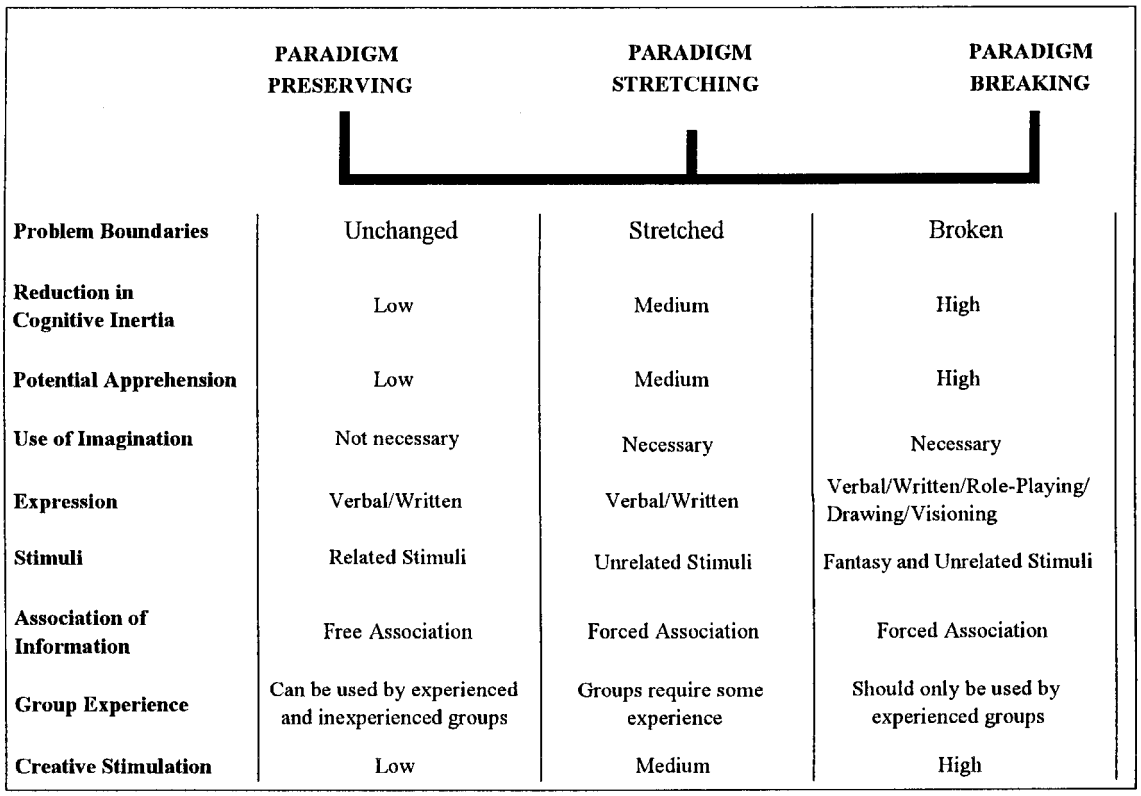
are to become high-performing teams. The members need to be attentive to the group's task, the meeting structure, the roles and responsibilities of the participants, the team's dynamics and the emotions and feelings of the group members. As each participant acquires these skills and develops trust, enthusiasm and commitment, so the group will mature and become more effective. Most groups, however, never reach the heady heights of high-performance, nor do they need to because their task does not require them to be revealing, unguarded and open. On the other hand, complex, novel and ambiguous challenges often demand highly creative solutions. In order to generate these ideas, team members may be required to undertake techniques that may make them feel uncomfortable and uneasy. These creative problem solving techniques are discussed in more detail.

Creative problem solving techniques

The work of McFadzean (1996, 1998b, 1998c) provides the framework for the development of a set of management tools, which are intended to refocus groups towards process management, through the application of various problem solving techniques. McFadzean (1998b, 1998c) has categorized these techniques as paradigm preserving, paradigm stretching and paradigm breaking:

1. *Paradigm preserving techniques*—are analytically oriented and do not require participants to operate outside the parameters of the problem. These techniques generally utilize related stimuli and free association (see Figure 1). In other words, group members use stimuli that are related to the problem. These stimuli are used to generate new ideas that can be combined and improved at will. In addition, ideas are expressed using verbal or written communication. The use of related stimuli, free association and verbal/written communication are generally more comfortable for participants thus reducing the likelihood that they will feel apprehensive or confrontational regarding the use of the technique (McFadzean, 1998c). Paradigm preserving techniques include, for example, brainstorming, brainwriting, force-



	PARADIGM PRESERVING	PARADIGM STRETCHING	PARADIGM BREAKING
Problem Boundaries	Unchanged	Stretched	Broken
Reduction in Cognitive Inertia	Low	Medium	High
Potential Apprehension	Low	Medium	High
Use of Imagination	Not necessary	Necessary	Necessary
Expression	Verbal/Written	Verbal/Written	Verbal/Written/Role-Playing/ Drawing/Visioning
Stimuli	Related Stimuli	Unrelated Stimuli	Fantasy and Unrelated Stimuli
Association of Information	Free Association	Forced Association	Forced Association
Group Experience	Can be used by experienced and inexperienced groups	Groups require some experience	Should only be used by experienced groups
Creative Stimulation	Low	Medium	High

Source: McFadzean (in press)

Figure 1. Characteristics of the creativity continuum.

field analysis, hexagons, 5W + H and word diamond (see McFadzean, 1998d, for an explanation of these techniques).

2. *Paradigm stretching techniques*—look at the problem from a variety of different perspectives, and participants are encouraged to diversify their thinking in order to form new connections and associations. This is undertaken using unrelated stimuli, forced association and verbal/written communication. Participants are forced to stretch their paradigm by using stimuli that are completely unrelated to the problem. For example, the group may be asked to use metaphors, descriptions of different types of objects or the forced association of different words to generate new ideas. These new ideas are then, in turn, forced back to the problem, where new solutions can be developed. These solutions tend to be more creative than the ideas developed from paradigm preserving techniques (McFadzean, 1996; Garfield *et al.*, 1997). Examples of paradigm stretching techniques include object stimulation, metaphors and rolestorming (McFadzean, 1998d).
3. *Paradigm breaking techniques*—although closely related to paradigm stretching methods, these techniques require the participants to 'break' with traditional problem solving processes and search for obscure patterns and relationships, which can then be used to explore the problem. The principal objective is to encourage participants to change their perspective of the problem being investigated. This is undertaken by using unrelated stimuli, forced association and multiple methods of expression such as role playing, drawing and dreaming. Paradigm breaking techniques include wishful thinking, wildest ideas, rich pictures and imagining (McFadzean, 1998d).

From McFadzean's work on paradigms has evolved the 'creativity continuum', which is used to visually explain both the relationship, as well as the differences, between the paradigms. McFadzean (1998d, p. 5) explains that:

> People who use the paradigm preserving techniques tend to enjoy using structured methods whereas participants who use paradigm breaking techniques tend to thrive on the unknown and are happy to use intuition, inspiration and imagination to drive them towards innovative ideas.

However, creative problem solving techniques must be used with great care. Paradigm preserving techniques, for example, may not produce highly imaginative ideas but they are comfortable and safe to use. The use of free association, for instance, will encourage participants to build on other people's ideas thus reducing the possibility of group process losses such as cognitive inertia, groupthink and incomplete task analysis. Cognitive inertia occurs when the discussion moves along only one train of thought (Nunamaker *et al*., 1991). Thus, group members do not contribute comments that are not directly related to the current discussion. Although this helps the group remain focused, it can also severely reduce the group's creativity. Groupthink occurs when members become excessively close and are therefore reluctant to critically evaluate the decisions made by the group (Janis, 1972). In addition, an incomplete analysis and understanding of the task can result in superficial discussions and poor decisions (Nunamaker *et al*., 1991).

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Using unrelated stimuli and multiple methods of expression can reduce cognitive inertia more effectively. In other words, utilizing paradigm stretching and paradigm breaking techniques can develop more imaginative and novel ideas (Nagasundaram and Bostrom, 1993; McFadzean, 1996). To use these techniques effectively, however, the group must be enthusiastic and experienced. Moreover, the facilitator should also be proficient, competent and experienced and should be able to develop a trusting rapport with the group. Since paradigm stretching and paradigm breaking techniques utilize unrelated stimuli and forced association, many more perspectives can be explored. Thus, these types of techniques are more likely to reduce cognitive inertia, incomplete task analysis and groupthink than paradigm preserving techniques. However, according to McFadzean (in press),

> Asking participants to use imagination and unfamiliar forms of expression can make them feel uncomfortable, and therefore such techniques can be ineffective and may cause animosity within the group. It is therefore vital that only cohesive, experienced groups, whose members have high levels of trust and commitment to each other, should use these techniques.

Moreover, the facilitator must ensure that the team has both goal and process congruence (McFadzean *et al*., 1999; Briggs and Nunamaker, 1996). In other words, the group as a whole must have the same goals in order to ensure that all the participants pull in the same direction at the same time. Likewise, process congruence is important because if the participants do not wish to undertake the suggested techniques, then, at best, the non-cooperative group member will rely on the other participants to accomplish the goals, or at worst, he or she will become argumentative or aggressive (McFadzean, in press).

Ensure that the team has goal and process congruence

Process consultation (coaching)

Although closely associated with team building, process consultation provides an alternative method for improving team performance, by focusing on solving 'process' problems. Process consultation essentially seeks to examine those 'process' problems that a team is likely to encounter during the various stages of its development. A consultant or coach is employed to work with the group to identify, as well as assist in providing potential solutions. Kaplan (1979, p. 347) defines process consultation as:

> . . . a method for diagnosing and acting upon human processes of work groups. It is a mechanism by which the parties in a relationship, usually with the assistance of a consultant, attempt to discover and solve problems in their work together.

The work of Schein (1969) has developed a three-stage model of process interventions: agenda setting, survey feedback and coaching:

1. *Agenda setting*: The attention of the group is focused on internal processes that are critical to task success, but are usually ignored by the group.
2. *Survey feedback*: Involves the use of a questionnaire or series of interviews to gather data on how members see their process. The results are then presented to the group at a survey feedback meeting. Discussion of the results enables the group to identify problems and solutions.
3. *Coaching*: Finally, the consultant coaches the group concerning the implementation of the agreed changes.

An important aspect of team development is that it cannot be undertaken without, or isolated from, an organization's culture. Culture affects the performance and development of the team by establishing many of the processes by which groups operate (Hambrick and Mason, 1984; Katzenbach and Smith, 1993). For example, some groups have more empowerment than others. Groups that are highly autonomous, for instance, can choose their own members and develop their own processes. In addition, highly empowered groups may develop their own reward structures and training programmes. It is, therefore, important to note that organizational culture has very real implications for group performance.

The role of the facilitator

Building an effective team is only the beginning of a very long process. A number of studies suggest that team building on its own is not enough to ensure that group productivity will be enhanced (Nunamaker *et al.*, 1991; Frey, 1995; Dipboye *et al.*, 1994; McKenna, 1996). They cite evidence to show that for often inexplicable reasons, when a group is left to its own devices it begins to flounder and perform less effectively.

Mosvick and Nelson (1987) contend that inefficient groups can become a costly exercise for organizations. They report that in one company alone, inefficient group meetings have added over $71 million, in one year, to the organization's overall costs. It was discovered, rather belatedly, that the principal reason for such high level inefficiencies was that many of the groups lacked guidance in meeting their objectives. Although in this case the financial losses might seem exceptional, it is not uncommon for group members to report dissatisfaction with meeting processes, and excessive waste in terms of resources (Katzenbach and Smith, 1993; Chidambaram and Jones, 1993; McClelland *et al.*, 1993; Woolley, 1998).

One of the ways in which group productivity can be increased is through the introduction of a facilitator. There is general agreement among researchers about why group facilitation procedures should improve meeting processes. It has been suggested that by focusing and guiding group members' communication and decision making processes in a structured manner, a facilitator can, at least potentially, reduce the chances of engaging in faulty process and harness the strengths of the group (Phillips and Phillips, 1993; Anson *et al.*,

1995; Wheeler and Valacich, 1996; Lewe, 1996; Nelson and McFadzean, 1998).

Frey (1995) has identified at least nine ways in which a facilitator can enhance the group's effectiveness:

a. Develop procedures to coordinate members' thinking.
b. Provide a set of objective ground rules.
c. Protect groups against their own bad habits.
d. Capitalize on the strengths of the group.
e. Balance member participation.
f. Help manage conflicts.
g. Give groups a sense of closure in their work.
h. Make groups reflect on their meeting process.
i. Empower groups.

A facilitator can help to enhance a group's process but there are a number of concerns that need to be addressed concerning the role of the facilitator especially in highly dysfunctional groups. For example, while many groups do not use effective meeting procedures in their daily interactions, which is why the facilitator has been asked to assist, attempts at resistance are common practice among groups who have been labelled as 'inefficient'. Facilitators also need to be aware that groups often perceive the role of the facilitator as being little more than a thinly veiled disguise for increased management control. On the positive side, external facilitators may in fact present themselves as a better solution because they are not hampered by the group's or organization's cultural problems.

Another problem for facilitators concerns the issue of professional ethics. Facilitators have a capacity to impact on people's lives, as well as influence the environment within which they work (Fuller and Trower, 1994). Anything that has the potential to adversely affect this process should be eliminated. On occasions it may not be automatically apparent where a facilitator's responsibilities and obligations begin and end. This highlights probably the most difficult of dilemmas for facilitators. How should a facilitator retain their 'distance' from a group, while at the same time exhibiting a high level of commitment to the task? One method of achieving this is to agree with the group participants the roles and responsibilities that each member, including the facilitator, should take (McFadzean, 1998a). In addition, ground rules can be developed and displayed on the wall so that all the participants will know what is expected of them (Schwarz, 1994; McFadzean, 1998d).

The final consideration is that of confidentiality. It is important for the facilitator to maintain high ethical standards in terms of confidential and impartial behaviour in order to retain the group's confidence and trust. Any reduction in confidentiality is very likely to have a significant impact upon group performance (Frey, 1995).

Technology and the group

As organizations move into the post-industrial era they have experienced an information explosion accompanied by increased complexity and turbulence in their environments (Haeckel and Nolan, 1993). The need for group decision making has never been so important. Evidence from a number of studies suggests that a single person's perspective and expertise may be too narrow to address the more complex and knowledge intensive problems faced by organizations (DeSanctis and Gallupe, 1987; Eden, 1990; Dennis and Valacich, 1993).

In order to improve meeting processes researchers have been exploring ways to exploit evolving information technologies. Among these are teleconferencing, computer conferencing, group support systems (GSS), computer supported cooperative work (CSCW), collaborative work and Groupware (for example, e-mail and Lotus Notes).

These technologies offer a number of benefits for two particular types of team—self-managed and quality teams. Many organizations are now moving toward self-managed teams in an attempt to create greater flexibility and responsibility (Anderson *et al.*, 1990; Katzenbach and Smith, 1993; McKenna,

1996). Although recognizing the contribution that the other technologies make to group processes, this paper will concern itself only with developments in GSS.

The primary objective of a GSS is to support collaborative activities, such as idea generation, message exchange, project planning, document preparation, mutual product creation, joint planning and decision making (Dennis *et al.*, 1990; Martz *et al.*, 1992). The meetings may take place on a face-to-face basis, from dispersed or remote locations, or in an asynchronous format with members logging on to the system at different times.

GSS offers a number of potential advantages in terms of enhancing group effectiveness. Historically, however, much of the research has tended to centre on three particular themes, evaluation apprehension, production blocking and free riding (Jarvenpaa *et al.*, 1988; Dennis and Valacich, 1993; Gallupe and Cooper, 1993; Licker, 1997; Fjermestad and Hiltz, 1997; Tyran and Shepherd, 1998; Briggs *et al.*, 1998).

Evaluation apprehension occurs when participants are afraid of expressing their ideas for fear of ridicule or punishment (Jessup *et al.*, 1990). A GSS is designed to counter this problem by providing an environment where information can be input anonymously. Anonymity has the additional benefit of making it less likely that an individual will dominate a meeting (Sosik *et al.*, 1997).

Production blocking occurs when only one person at a time can put their views forward (Diehl and Stroebe, 1987). A GSS overcomes this problem by allowing groups to participate simultaneously. Parallel participation also allows for a substantial increase in group size. Groups of 10–20 participants are most common but groups as large as 55 have been recorded (Gallupe *et al.*, 1992).

Free riding usually occurs when group members expect their ideas to be pooled and analysed at the group level. A participant may feel tempted to ride on the effects of others if they are not being observed (Dipboye *et al.*, 1994). A GSS provides a facility whereby individual participation can be monitored and reviewed. Evidence from a number of studies suggests that group members who expect their productivity to be monitored usually see no possibility of evading participation (Diehl and Stroebe, 1987; Licker, 1997).

GSS also provides a number of other potential benefits. For example, the results of a meeting can be fed-back to the participants quickly and without significant time delays (Dennis *et al.*, 1990). Improvements in meeting structure can also be achieved by using standardized frameworks to make the meeting more understandable (Dennis *et al.*, 1988). This may be particularly important for managers who have to approve an agenda. Moreover, information-handling tools can be run spontaneously to provide comparative assessments of ideas and solutions (DeSanctis *et al.*, 1994).

In spite of the apparent benefits of using a GSS, there are a number of significant disadvantages. There is a distinct possibility that confusion may occur as a result of complex interrelationships evolving over a period of time. This confusion may in turn result in increased levels of hostility, the polarization of consensus in terms of risk shift, cautious shift and groupthink, all of which serve to extend the time taken to make a decision (Zigurs and Kozar, 1994; McKenna, 1996).

More importantly, there are a number of challenges that GSS has not adequately addressed. The biggest problems centre on how GSS groups manage information overload (Licker, 1997). Many GSS are only able to provide support to a fairly basic level. GSS programmes range from being highly automated (for example, the idea generation phase) to being overly mechanical and labour intensive (for example, the consolidation of a large number of ideas in a short space of time). In addition, unless a clear favourite idea or solution emerges, the group may spend many more hours debating the advantages and disadvantages of the other ideas (Gallupe *et al.*, 1992).

There are also some more immediate problems. The software to run group sessions is still very expensive, with prices in excess of £6,000, and the cost of providing net-

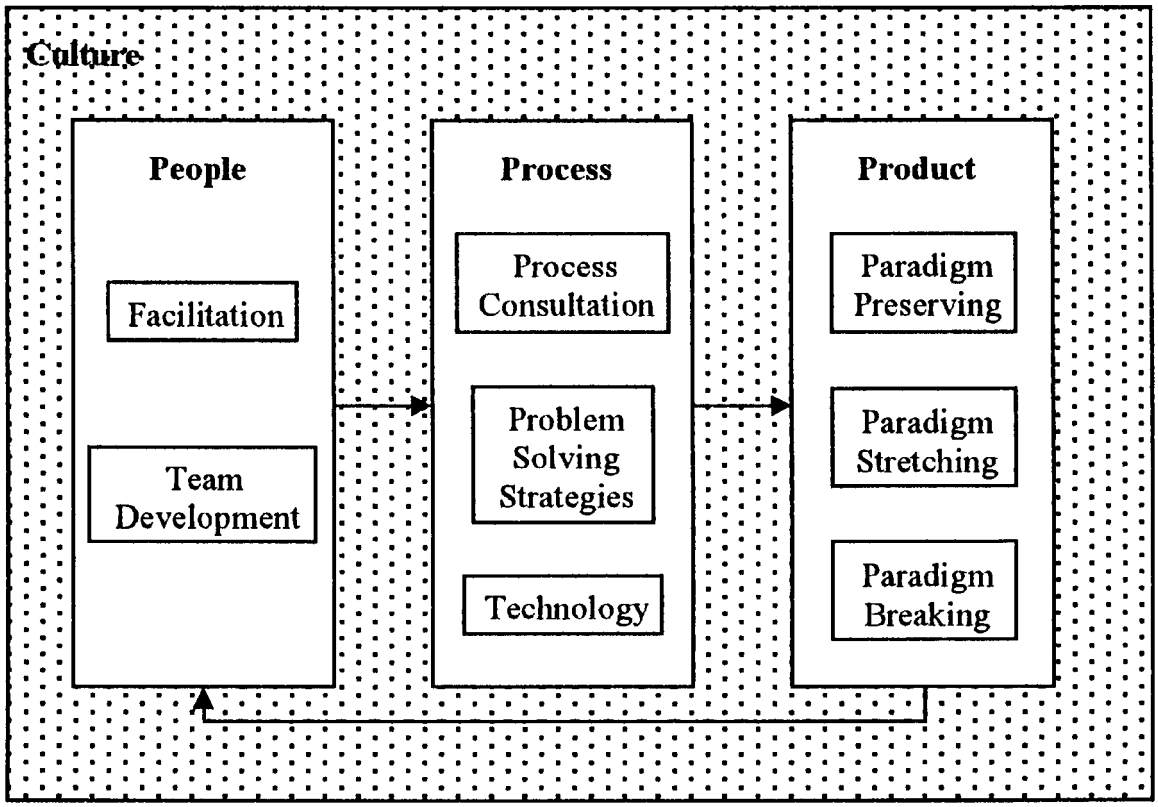

Figure 2. Improving team productivity.

worked meeting facilities can run to several thousands of pounds (Martz *et al.*, 1992). Licker (1997, p. 231) highlights another cost, that of 'time':

> Facilitators are needed, and every meeting has to be set up, at some cost in time. One university . . . has found that every four-hour meeting requires about four hours to setup, takedown and report. Longer meetings or sequences of meetings have much larger overheads.

From an individual manager's perspective these are all considerable costs in terms of effort, time and expense. It is therefore essential that before embarking on a programme which has the potential to incur such high overheads, managers address the question as to whether a GSS can really satisfy the return on any investment made, which could not be realistically achieved by other less expensive methods.

Discussion

Team productivity and creative thinking does not just occur. Organizations must continue to develop their employees. The facilitator and the team members can directly affect the output of the group. A poor facilitator or inappropriate participants will only tend to produce mediocre results. In addition, the process of communication, deliberation and information access must be developed. A facilitator or coach can help the group to gain cohesion and improve its dynamics. He or she can also help the group to choose the appropriate problem solving strategies, tools and techniques. A group support system, for example, may help larger groups to communicate more effectively. Likewise, an appropriate creative problem solving technique can help the group participants explore their situation in more detail or encourage them to develop more creative solutions (see Figure 2). An experienced and well developed

team will be able to utilize paradigm transforming techniques and thus produce more creative solutions. Whatever technique is used, however, the group must continue to learn in order to enhance its development.

The group must continue to learn

Therefore, there should always be some form of feedback between the output (the product) and the input (the people).

Effective groups should also be developed in an organizational climate that will support team work and creativity. There are a number of ways of improving the climate within an organization so that the creative energies of the employees can be released. These include:

- A secure environment where risk taking is tolerated and where failure does not result in job losses or other threats to advancement.
- Willingness by management to take risks in the targeted areas so that creativity and innovation can be encouraged.
- A portion of time that can be set aside for employees to explore and develop new ideas.
- An organizational culture that makes it both attractive and easy for employees to develop new ideas or explore problems easily.
- Senior management who actively encourage creativity and the communication of ideas, thoughts and solutions.
- Resources such as money, time and information as well as assistance and cooperation from the appropriate people.
- Formal and informal training courses in creativity, team building and facilitation skills.
- Goal clarity and a shared vision which will include long-term goals and the action plans that employees are expected to follow.
- Trust in people's ideas, competencies and abilities to perform to their potential.

In summary, therefore, managers must actively develop and train participants in group work and facilitation. They must learn to use the appropriate tools and techniques for the event and to continue the development process by evaluating the group sessions and the team's output.

Biographical notes

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