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Chapter 11

Group and team processes in organisations

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OVERVIEW

During recent decades, organisations have shifted towards team-based structures to enhance organisational performance, and research has shifted to investigate these new work structures. This chapter explores team and group process research in organisations. The initial focus of this chapter is to define groups and teams. Types of teams and team development theory will also be briefly discussed. Several theories of group dynamics will then be presented. The input-process-output framework, which explains the relationships between variables in team research, will provide structure to the ensuing discussion of team-related variables, such as individual and team-level characteristics, team and group processes and team performance. A frequent goal of group and team-based research is to understand how to improve team effectiveness and thus performance. Team performance is therefore included in this framework as an important outcome variable. This framework is then extended and a contemporary way of categorising team-based research in organisations is presented. In addition, the potentially important role of moderating variables in team research will also be discussed.
Introduction

Groups of people working together for a common purpose have been a fundamental building block of human social organisation. However, the modern concept of work in large organisations, developed in the late nineteenth and early twentieth centuries, involves work activity being conducted as a collection of individual jobs (Engels 1984). A variety of global forces have unfolded over the last two decades which have resulted in a changing landscape in which organisations operate. For example, the need for organisations to respond to increasing national and international competition (von Treuer & McMurray 2011) has highlighted the need for skill diversity, high levels of expertise and adaptability (Kozlowski & Ilgen 2006). Organisations worldwide have been pressured to restructure work around teams to enable more rapid, flexible and adaptive responses to the unexpected. This shift in the structure of work has made team effectiveness a salient organisational concern (Kozlowski & Ilgen 2006).

The need to respond to market changes has resulted in a shift in focus from the individual to the team. In many work situations, tasks have become so complicated that successful performance requires a combination of knowledge, skills and abilities that the single individual rarely possesses. Completing tasks effectively requires several people to work in an interdependent fashion. Additionally, many organisations have become so large and/or complex in their structures that activities must be closely coordinated, via teamwork, if organisational objectives are to be achieved (West 2010). Teams, rather than individuals, are increasingly considered the fundamental building block of organisations and team-based working (West 2010), and the number of organisations adopting team-based structures has steadily increased (Stewart 2011; Divine et al. 1999). As managers and practitioners have focused their initiatives on the team, so has organisational research.

Reviews conducted on work team research (see Ilgen et al. 2005; Kozlowski & Bell 2003) reflect the perspective of work teams as a dynamic, emergent and adaptive entity embedded within a multilevel system (Kozlowski & Ilgen 2006). However, the definitions of the terms ‘group’ and ‘team’ require clarification.

Definition of groups and teams

While the definition of groups and teams is not the focus of the ensuing chapter, it is important to have an understanding of how these terms are used. There are many definitions of a group, depending upon the theorist or researcher. Brown (2000, p. 4) summarised but extended the definition of a group when he wrote:

A great many groups can be characterized as a collection of people bound together by some common experience or purpose, or who are interrelated in a micro-social structure, or who interact with one another. All these may be sufficient conditions to say that a group exists. But perhaps a crucial necessary condition is that those same people also share some conception of themselves as belonging to the same social unit.
This comprehensive definition will be used, as it encompasses other definitions and explains the construct in a more connotative way.

All teams can be considered groups because they comprise people; they also have a unified purpose. However, not all groups are teams because some groups contain people who are merely assembled with no unified purpose. Teams can be considered groups that comprise two or more people who interact and influence each other to achieve common goals (McShane & Travaglione 2005). More specifically, a work team is defined as ‘an independent collection of individuals who share responsibility for specific outcomes for the organisation’ (Sundstrom, DeMeuse & Futrell 1990, p. 120). While it is important to note that the differences between workgroup and work team are debated (see Katzenbach & Smith 1993), the distinction is not widely adopted by researchers (Guzzo & Shea 1992). West (2010) defined work teams as groups of people who share responsibility to produce products and deliver services. Features of the work team include sharing overall work objectives and, ideally, possessing the necessary authority, autonomy and resources to achieve these objectives. Subsequently, the team members are dependent upon one another in terms of knowledge and/or skills to achieve objectives; this requires them to work closely, interdependently and supportively. Ideally, effective teams should have as few members as necessary to perform the task and have distinct and clear goals.

In summary, the work team will be defined as consisting of two or more individuals who:

- socially interact (face-to-face or increasingly, virtually, via audio-visual means on the internet);
- are brought together to perform organisationally relevant tasks;
- exhibit interdependencies with respect to workflow, goals and outcomes;
- have different roles and responsibilities; and
- are embedded in an encompassing organisational system (West 2010).

### Types of work teams

Various types of teams have been conceptualised and identified by managers and researchers to enable communication about types of organisations and structures, and specific research on types of teams. While the number of different types of teams is debated in the literature, five core types of distinguishable workgroups have been proposed by Sundstrom et al. (2000).

1. **Advice teams** can be temporarily assembled to solve problems and recommend solutions. Advisory teams may include management decision-making committees, quality control circles, staff involvement teams and selection committees.

2. **Production teams** consist of front-line employees who repeatedly produce tangible outputs, for example: assembly teams; department teams; sales and healthcare teams; and maintenance, construction, mining and commercial airline teams.
3. *Service groups* comprise employees who co-operate to conduct repeated transactions with customers. Examples may include airline attendant teams, maintenance groups and telecommunications sales groups.

4. *Management teams* comprise employees who coordinate work units through joint planning, policy making, budgeting, staffing and logistics (Cohen & Bailey 1997), and can include corporate executive teams, regional steering committees and other management teams. Stock (2004) noted that management teams typically deal with strategically relevant tasks that are important with respect to the overall performance of the company or business unit.

5. *Project groups*, also known as taskforces, comprise individuals who complete a defined, specialised, time-limited project and disband upon its completion. Generally cross-functional, their members tend to come from different departments or units such as engineering project teams and new product development groups (Ancona & Caldwell 1992).

**Interpersonal relations and group processes**

Teams and teamwork are central features of contemporary organisations. Consequently, workers are required to align to a collective, to various degrees. Workers therefore, need to adopt converging goals and sacrifice individual interests so that collective outcomes are gained (Ellemers, de Gilder & Haslam 2004). This section presents a summary concerning three main ways we influence people: interpersonal behaviours, group process and intergroup relations. Together, these frameworks and theories offer explanations about how we form relationships with other people, join groups with other people and behave in certain ways towards members of our own and other groups.

**Interpersonal behaviour**

One main theory of interpersonal behaviour is social facilitation theory (Zajoc 1965; Zajonc & Sales 1966).

*Social facilitation theory*

Within this sphere of interpersonal behaviour, social facilitation theory has been well researched, and there is considerable ongoing research in this field within the domains of both human psychology and animal behaviour. This underpins the general and ubiquitous nature of social facilitation (e.g Feinberg & Aiellok 2006; Klehe, Anderson & Hoefnagels 2007).

Social facilitation is the improvement in task performance which results from being observed by others. The facilitation of dominant tasks in the presence of significant others is well established (Zajonc & Sales 1966). Dominant tasks are those tasks that the subject is well practised in, and has mastered. Non-dominant tasks are those tasks that the subject is still learning or lacks mastery. Evaluative audiences are those audiences that the subject perceives to be in a position to
judge the subject’s performance on the task. Consequently, when dominant tasks are performed in front of an evaluative audience the task performance is typically improved (facilitation). When non-dominant tasks are performed before an evaluative audience the task performance typically deteriorates (inhibition). This effect will occur even if the evaluator is not directly present; for example, a manager may review a subordinate’s report. This framework is shown in Figure 11.1.

Figure 11.1 An explanation of social facilitation/inhibition

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<tr>
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<th>No audience</th>
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<tr>
<td>Dominant task</td>
<td>Performance at baseline</td>
<td>Increased performance above baseline (facilitation)</td>
</tr>
<tr>
<td>Non-dominant task</td>
<td>Performance at baseline</td>
<td>Decreased performance below baseline (inhibition)</td>
</tr>
</tbody>
</table>

Within an organisational context this framework suggests for example, that pacing a group of workers together for individual, but dominant tasks will increase each individual’s performance. It also suggests that having individuals perceive that there performance is being monitored, e.g. by a manager will also improve their performance provided that the task is one with which they are competent. Conversely, when individuals are learning a task, it may be a better strategy to not constantly ‘be looking over their shoulder’ while they master the task.

**Group processes**

Group processes involve stages such as members joining a group and learning their place in a group and internalising group norms. There is pressure to conform to these norms and generally there can be informal and formal sanctions for those members who stray outside the group defined boundaries (Tarrant & Campbell 2012). Alternative conceptualisations of group development exist. Tuckman’s model of sequential group stages is an extremely popular framework, while other competing theories such as Gersick’s Punctuated Equilibrium theory provide differing interpretations.

**Stages of team development**

The process of joining and being influenced by a group is a dynamic process. The underlining mechanisms that impact upon how groups change over time have interested many researchers. For example, team development has been of particular interest to researchers examining organisational mergers, acquisitions and/or integration. The stages of team development were significantly advanced through the seminal work of Tuckman (1965) and were extended by Tuckman and Jensen (1977). The five stages are forming, storming, norming, performing and adjourning.
Forming

Forming is the first stage of group development. Teams are often formed when programs/services develop, expand or are consolidated (Zeiss & Steefen 1998). This stage describes a period of testing and orientation in which members learn about one another and evaluate the benefits and costs of continued membership. Team members may have concerns about building relationships and trust and are therefore unsure about how to express disagreement or concerns about the group (Zeiss & Steefen 1998). Members may experience a form of socialisation within the forming stage. Socialisation has been a construct of research interest, particularly in its role with new recruits.

Storming

Storming is the second stage of group development. During this stage, the team continues to work together; addressing process issues at work becomes increasingly unavoidable (Zeiss & Steefen 1998). There may be increased interpersonal conflict as members become more proactive and compete for roles and kudos. Coalitions may form to influence the team’s goals and means of goal attainment. Members try to establish norms of appropriate behaviour and performance standards.

Norming

Norming is the third stage of group development. This stage is marked by a group’s sense of cohesion as roles are established and a consensus forms concerning group standards, including such aspects as how to make and communicate decisions. A working strategy will evolve when the group is constructively addressing disagreement (Zeiss & Steefen 1998). In this stage members develop similar mental models, ensuring they have common expectations and assumptions about how the team goals should be accomplished. Ground rules are established. They develop a team-based mental model that allows them to interact more efficiently so they can move to the next stage (Klimoski & Mohammed 1994).

Performing

At this stage, the team develops a high level of performance as the team becomes more task-focused and has learnt to coordinate and resolve conflicts more efficiently. While coordination improvements may still be addressed, the emphasis is on task accomplishment in the performing stage. High-performance teams are highly co-operative, have a high level of trust, are committed to group objectives and identify with the team. There is a climate of mutual support in which team members feel comfortable about taking risks, making errors and asking for help (Edmondson 1999).
Adjourning

The life cycle of a group ends with the separation of group members, as most work teams and informal groups eventually end. Tuckman and Jensen (1977) referred to this stage, which was subsequently added to the original work (Tuckman 1965), as adjourning.

Groups need not go through all stages or they may not evolve at the same pace. Consequently, the potential exists for groups to develop problems due to omitting stages or inadequately dealing with particular stages of development. This may necessitate revisiting the prior stage. For example, if the norming stage is omitted or inadequately dealt with, this may produce problems with interactions between group members, necessitating the renegotiation of agreed norms that will guide such interactions. Therefore, implications for appropriately setting up, training, supporting, monitoring and rewarding groups could also be indicated.

Tuckman’s sequential group developmental model has not been without its critics. Gersick (1988; 1991) criticized Tuckman’s model because the stages of development do not appear to reflect real-life evolution of group stages. Therefore Gersick (1988; 1991) developed the Punctuated Equilibrium model of group development. Gersick proposes that after an early stage where the group meets, it forms an essentially stable phase which lasts around half the life of the group. At the halfway point the group reconsiders its position and goals, and there is usually a brief revolutionary phase characterised by major changes in the group function. After the brief revolutionary phase, the group once again enters a longer-term stable phase which takes it towards the end of its life. The final phase of the group is completion of the group tasks. Gersick perceives these phases as the primary structure of the group development process, and the relevant timeframe is provided by the time that the group has to achieve the group goals. These premises are argued to exist across a broad range of both group goals and group lifespans. This model is an alternate way of conceptualising group development, and may run concurrently with Tuckman’s stages of group development.

Levine and Moreland (2001) offered a more recent focus on group development, detailing accounts of group socialisation. They examined how groups and their members adapt to one another, how they join groups, how they maintain their membership and how they leave groups. Their central tenet was that group members engage in a cost-benefit analysis of membership. If benefits of the group membership outweigh the costs, then members become more committed. Therefore, if the cost of membership, e.g. in terms of time and effort, is more than the benefits, the group may fail to establish properly. Consequently, the group may be vulnerable, particularly at difficult stages when the costs begin to outweigh the benefits. These factors have implications for appropriately setting up, training, supporting, monitoring and rewarding groups.
Group dynamics

Group dynamics have been acknowledged as an important facilitator and/or barrier to teamwork. More recent thinking has recognised a close association between the dynamics within and between groups and the shaping of employee behaviour (Brown 2000). Types of dynamics within and between groups are referred to as inter- and intragroup processes respectively (Brown 2000).

The social identity approach to understanding group behaviour and processes has been the most dominant perspective in intergroup research. The social identity perspective includes a psychosocial analysis of intergroup processes, intergroup relations and self-concept (Hogg & Reid 2006) and embraces sub-theories such as social identity theory and self-categorisation theory (Turner et al. 1987). Social comparison theory is also often cited in the literature as an important intergroup process, and will be further explored below, along with social identity theory. Unfortunately, the scope of this chapter cannot provide an account of all these theories and perspectives.

Social identity

Social identity is part of an individual’s self-concept, which derives from their knowledge of ‘membership of a social group or groups together with the value and emotional significance attached to that membership’ (Tajfel 1978, p. 63). People can perceive themselves as members of many groups. Thus, social identity is a complex combination of many memberships determined by personal priorities (Tajfel & Turner 1986). Usually, people prefer to portray a positive self-image and identify with groups that support that self-image. Social identity is a comparative process, meaning that people define themselves in terms of their differences to other people who belong to different groups. The simplification of this process results in the tendency to homogenise others into social categories or stereotypes. Social identity theory research can focus on prejudice, discrimination and conditions that promote different types of group behaviour. For example, Giessner, Ullrich & van Dick (2011) examined social identity in relation to corporate mergers. They found that one problem was that employees might identify more strongly with the pre-merged organisation than with the merged organisation. Status and dominance difference processes can be used by managers and leaders to influence the merger and thus facilitate successful integration.

Social categorisation

Similar to scientists trying to reduce nature’s complexity to a manageable number of categories, people generally rely on categories in everyday life. Social categories are useful to simplify and order the large number of cognitive inputs a person receives. For example, social categories assist people to discriminate between those who belong and those who do not belong to specific groups (Brown 2000). Therefore, social categorisation produces in-group and out-group biases, even if the basis of the categorisation is arbitrary (Moreland 1985). Social categorisation is central to the social identity approach and central to categorisation (Turner et al.
1987). It has been hypothesised that social categorisation is produced because of the need to develop a positive social identity. Out-group biases lead to de-individuation of out-group members with more negative evaluation of the out-groups. Within an organisational context, the self-categorisation to one or another group may therefore influence the individual’s performance as well as group performance. Therefore, organisational efficiency can be adversely impacted. Conversely acceptance as a group member may facilitate between group co-operation and performance. Moreland (1985) conducted a laboratory experiment which involved 20 discussion groups. Each group comprised of five unacquainted participants who met once a week for three weeks to discuss topical issues. Two of the five subjects were told they were ‘newcomers’ and entering a group with three ‘oldtimers’. The three remaining subjects received no information, but they had correctly assumed that everyone was new to the group. Strong in-group out-group biases between old and new members were evident in the experimental subjects. These biases diminished over time as the differences between old and new members became less important. These findings suggest that social categorisation theory can play an important role in assimilation of groups and may be important to take into account when managing mergers and acquisitions, service integration, staff induction, and when establishing new teams.

**Conflict and co-operation**

While people may express both collective identity and individuality in groups and organisations, we also need to navigate our relationships so that we co-operate and devise complex strategies to guide our communication and conflict management. Tjosvold, West and Smith (2003, p. 3) state: ‘Co-operation involves helpful, supportive, and integrative actions that in turn help the team succeed at its task and strengthen interpersonal relationships.’ However, the dynamics between groups depend upon what the specific goals for each group are. If the goals of two groups are aligned, the prospects for co-operation increase. If, on the other hand, group goals are misaligned or two groups compete for limited resources, group conflict may result. One way of minimizing conflict is to introduce a superordinate goal for the two or more groups in conflict. The superordinate goal is a goal that is seen to be desired by both groups, but is unattainable without the co-operation of the other group (Sheriff 1966). When teams are in conflict, organisations may establish a superordinate goal to assist the teams to align, and therefore co-operate.

**Work team research**

Improving team performance is a challenge for many organisations. Consequently, research on factors such as antecedents of team performance is of high managerial and research relevance. Over the past several decades, considerable progress has been made on understanding the drivers of team performance. Consequently, there is a clearer convergence on understanding the antecedents of team performance (Kozlowski & Ilgen 2006).
An historical view of the study of teams in organisations

In the 1930s, a series of studies known as the Hawthorn studies (Sundstrom et al. 2000) was conducted to examine the influence of physical working conditions, such as lighting, on productivity. The researchers found more complex results than they anticipated. For example, the relationship between amount of lighting and productivity seemed to be contradictory with both increases and decreases in lighting resulting in greater productivity. It was suggested that the attention given to the workers by the researchers may have contributed to these results. It was also found that even when individuals could produce more or less than each other at individual work stations, their output seemed to be influenced by group norms that regulated the amount each person produced. These results led a shift in focus from physical work conditions to the importance of interpersonal relations among workers and management. During World War II, organisational research made little use of research findings such as those of the Hawthorn studies, and focused upon narrowly defined jobs for individuals. Although other researchers had also drawn attention to more person-related aspects of organisational performance (e.g. Barnard 1938), scientific management theory continued to be favoured at this time as it had been since the early pioneering work of Taylor (1911). In the 1960s, organisation and management theorists (Likert 1961; McGregor 1960) provided a more comprehensive and sustained criticism of the mechanistic authoritarian approach to organisations, in particular highlighting the need for more participation in decision-making by workers and the use of teams. In the 1970s, some experimental applications of workgroups were published. Some of the examples included General Motors incorporating assembly teams into a truck factory (Tichy 1976), and employee involvement groups (Guest 1979). In the 1980s, the application of workgroups was expanded with the use of total quality management (TQM) in manufacturing (Hackman & Wageman 1995). Companies utilised quality circles — small groups of employees who were asked to suggest solutions to business problems. Production groups and project teams were successfully used in large firms such as Boeing, Caterpillar, Champion International, Ford and General Electric (Dumaine 1990; Hoerr 1989). In the 1990s, the study of workgroups became more common and sophisticated.

More than 60 years after the Hawthorn studies, the research literature on workgroups continues to grow in terms of quality and impact (de Moura et al. 2008). The recent proliferation of research in the 1990s and 2000s has been contributed to by several different fields of study, including social psychology, organisational psychology, organisational behaviour and human resources. This has resulted in various frameworks used to explain the relationship between teams, group processes and team effectiveness/performance variables (see Stock 2004; Kozlowski & Ilgen 2006). The development of the input-process-output (I-P-O) heuristic (McGrath 1964) recognised the dynamic process of teams, and over the last 40 years has served to advance our understanding of teams.
Input-process-output heuristic of team effectiveness

The past several decades have seen a proliferation of research and theorising about teams and team effectiveness, with the I-P-O framework emerging as a key platform to understand team research. The I-P-O framework (Hackman 1987) is a causal chain in which a number of independent variables (individual and team-level characteristics) either directly or indirectly (through mediation process variables) affect performance as the dependent variable. The three stages of the I-P-O framework are as follows:

- **Inputs** (I) refer to the composition of the team in view of the individual characteristics and resources at multiple levels, that is, at the individual, team and organisation level. Individual team member characteristics may include personal skills, attitudes and behaviours (Stock 2004). Homogeneity, cohesion and norms form part of the team-level characteristics (Stock 2004).

- **Processes** (P) refer to the activities that team members engage in, combining the resources to resolve (or fail to resolve) demands upon task processes and mediate the relationship between inputs to outcomes. Although team processes are dynamic, they often appear in research as a static phenomenon which may not represent changes in the constructs that emerge over time (i.e. emergent states) as team members interact and the team develops (Kozlowski et al. 1999; Marks et al. 2001). Team processes refer to the interaction between team members, and may include leadership behaviour, decision-making, communication, cooperation and conflict (Stock 2004; West 2010).

- **Output** (O) often has three components: performance judged by relevant others external to the team; meeting of team member needs; and the willingness of members to remain in the team (Hackman 1987). Team output represents the dependent variable within the I-P-O framework and refers to both psychological and business-related outcomes produced by teams (Stock 2004) and team effectiveness/performance variables (Kozlowski & Ilgen 2006). In organisational terms, reaching sales targets, improving efficiency and reducing decision-making time could all be examples of output measures (Langan-Fox 2003). Social processes could also be measured and, ideally, enhanced, and finally, members should increase their job satisfaction and therefore increase their motivation and organisational commitment (Langan-Fox 2003). Taken together, these three criteria capture many of the measured outputs in organisational research.

In summary, the I-P-O heuristic is an accepted framework for understanding the relationships between variables in team-based research (Kozlowski & Ilgen 2006) and how they affect team-based team performance. This framework is a useful heuristic for diagnosis of organisational issues. It provides a framework for conceptualising where organisational problems may occur. Such diagnosis would enable a practitioner to design meaningful and useful interventions. For example,
if there are problems with inputs no amount of effort aimed at either processes or outputs would alleviate the problem.

**Contemporary view of categorising team research**

Stock’s (2004) framework (see Figure 11.2) extends the I-P-O framework by including the role of moderating variables. Components of the model include individual and team member characteristics, team-level characteristics, team processes, team performance and moderating variables. The focus of this framework is to categorise the role of variables in research. These categories are discussed below.

**Figure 11.2** A framework for the review and categories of work team studies


Figure 11.2 offers an interpretation by Stock (2004) of the I-P-O framework. This interpretation offers a distinction between five categories of studies. They are:

- **Category one**: research that includes studies investigating the effect of individual team member characteristics on characteristics of team processes and/or team performance.
- **Category two**: studies that focus on the impact of, or relationship between, team-level characteristics on characteristics of team processes and/or team performance.
- **Category three**: research that studies the association between characteristics of the team processes and/or team performance.
- **Category four**: studies that investigate moderator effects on the relationship between the framework components.
- **Category five**: integrated studies that investigate a causal chain from either individual and/or team-level characteristics to team performance, mediated through characteristics of the team processes.
However, as Stock (2004) notes, some studies may fit into one or more categories without being treated as integrative. These studies may investigate several effects, as shown in Figure 11.2, in isolation but do not analyse these effects within the causal chain by means of integrative methodology. Instead, they use, for example, structural equation modelling which allows the analysis of causal chains within a single mode.

**Category one research: Individual team member characteristics and team processes/performance**

Category one includes studies that investigate the effects of individual team member characteristics on characteristics of team processes and/or team performance. Work teams exist in the context of a multilevel system whereby they are part of a broader organisational system and task environment that determines the difficulty, complexity and pace of team tasks. Therefore, it becomes necessary to understand the system context and relationships across multiple levels, as they make demands on the team that require aligned processes (Kozlowski & Ilgen 2006). Some teams are more tightly aligned to a dynamic task environment, as opposed to other teams in which the broader organisational system is the primary context. What the team has to do determines the workflow structure and coordination demands (e.g. exchanges of behaviour and information) necessary for accomplishing individual and team goals and resolving task requirements (Kozlowski & Ilgen 2006).

Much research has examined the antecedents of team performance. Numerous independent variables have been examined and many personal characteristics belong to one of two major categories, either personality/personal traits or expertise. Almost all investigated personal characteristics relevant to teamwork (e.g. extraversion, job involvement, self-consciousness and team orientation) were positively associated with higher team performance. However, findings related to expertise and team performance are inconsistent. Specifically, creativity (Denison, Hart & Kahn 1996; Taggar 2002), experience (Ancona & Caldwell 1992), and cognitive abilities (Neumann & Wright 1999) have been shown to have a positive association with team performance. However, other studies have reported no relationship between cognitive abilities (LePine et al. 1997) or experience (Anacona & Caldwell 1992b; Michel & Hambrick 1992).

Belbin (1981; 1993) has proposed team role models to explain how teams function. He proposed that team members could adopt. They were: Completer-Finisher, Implementor, Team worker, Specialist, Monitor-Evaluator, Co-ordinator, Plant, Shaper, and Resource Investigator. Each of these roles have been well delineated, and the team members occupying these roles have both specific strengths and weaknesses. The team members intuitively take on a specific role which can be conceptualised as either task- or socially-oriented.

**Category two research: Team-level characteristics and team processes and performance**
These studies involve research that focuses on the impact of team-level characteristics on team processes and/or team performance. Team processes are a way to understand coordination of team member effort and its relevant factors as well as alignment of team processes and task demands. Appropriately aligned team action processes have been found to be critical enablers of team effectiveness (Kozlowski & Ilgen 2006; Salas et al. 1992). Team climate and team mental models are examples of factors that influence team processes.

Researchers have examined the impact of the following team-level characteristics on team processes:

- team size;
- team heterogeneity/diversity (the degree of differences between members of the team on a number of characteristics such as personality) (Jewell & Reitz 1981);
- team cohesion (the degree of interpersonal attraction in a group) (Kidwell, Mossholder & Bennet 1997);
- the presence of norms (the shared expectations about how members in a team ought to behave) (Levi 2001);
- decision autonomy of the team (the degree of a team’s independence of external direction with respect to goals, priorities and problem-solving approaches) (Youngbae & Byungheon 1995); and
- team leadership (the degree to which the team leader influences behaviours of the team members) (Stewart & Mantz 1995).

Research generally supports positive findings regarding the relationships between various team-level characteristics and team processes.

A review of studies that examined the effect of team-level variables on team performance has revealed inconsistent and contradictory findings (Stock 2004). For example, studies such as Wiesema and Bird (1993) found that performance outcomes on experience diversity, team tenure diversity and prestige diversity were positive, but performance outcomes on organisational tenure diversity, age diversity, change orientation and work pressure did not display a relationship. Wagner (1995) found that co-operation was positively associated with identifiability, but negatively associated with group size and shared responsibility.

Team Mental Models have also been hypothesised to positively impact upon team performance (DeChurch & Mesmer-Magnus 2010). They specifically mentioned that substantial between-studies operationalisation of team mental models has significantly hampered progress in understanding this relationship. Findings on the effects of team-level characteristics on performance outcomes (such as effectiveness, efficiency and/or psychological outcomes) are inconsistent. Stock (2004) suggests that a possible explanation for this is that the performance effects of team-level characteristics are essentially indirect in nature. It is possible that directly relating these characteristics to performance constructs may be problematic if the research design omits, or does not control for, mediating
variables (for example, constructs related to team processes such as co-operation, communication and conflict) (Stock 2004).

**Category three research: Team processes and team performance**

Category three research includes studies that explore the relationship between characteristics of the team processes and team performance. Commonly studied characteristics of team processes include the intensity of communication (frequency and/or duration of information exchange among the members of the team), the intensity of co-operation (the degree of mutual support of the team members) and the intensity of conflicts within the team (the frequency of personal and/or task-related problems among the members of the team) (Stock 2004). Generally, intensity of communication and co-operation have been consistently shown to have positive effects on relationships with team performance, with different effects found in the performance outcomes of team conflicts. Empirical findings indicate that personal conflicts have a negative effect on team performance (such as decision quality, task-related performance and member satisfaction). These results suggest that personal conflicts are counter-productive to the success of the team. Conversely, findings on task-related conflict are somewhat contradictory: both positive and negative effects have been found.

**Category four research: Moderator variables**

Studies that investigate moderator effects on the relationship between the variables under consideration are reported in the fourth category. These studies focus upon the factors that strengthen or weaken the effects of different antecedents of team processes and team performance. The impact of moderating factors may not be equally strong in every situation. The variable that either strengthens or weakens the relationship between two other variables is referred to as the moderator variable (Stock 2004). Research on moderator variables in this field is fragmented and narrow, despite highlighting the distinction between several categories of potentially relevant situational factors in the context of team performance (such as environmental characteristics, organisational characteristics such as the organisational culture and characteristics of the teams’ outside relationship). For example, Bunderson (2003) examined the relationship between functional expertise (IV) and decision involvement (DV), and that between functional background (IV) and workflow network (DV). Decentralisation was a non-significant moderation in the functional expertise-decision involvement relationship, and decentralisation was a negative moderator in the functional background-workflow network relationship. Power centralisation had a positive moderation in the functional expertise-decision involvement and also for the functional background-workflow network relationships.

**Category five research: Integrated studies**

These studies consider the mediated relationships (causal chains) and thus are not limited to the investigation of single or one-stage relationships. These studies are designed to be integrative and can analyse dependencies within more complex
causal chains that include at least one layer of mediator variables. The causal chain may therefore link individual and/or team-level characteristics to team performance mediated through characteristics of the team processes. The studies that investigate antecedents of team performance within this more integrated model can be divided into two groups: studies that have exclusively investigated direct effects within a causal chain, and studies that have analysed indirect effects within a single model (Stock 2004).

Sivasubramaniam, Murray, Avolio and Jung (2002) utilised Structural Equation Modelling in their study investigating the longitudinal effects of team leadership and group potency (a study that investigated direct effects within a causal chain). Their model incorporated the independent variables of transformational leadership, management by exception, laissez-faire leadership, and group potency, all at time one. Transformational leadership, management by exception, laissez faire leadership, and group potency at time two were mediating variables. The dependent variable of group performance was utilised. While various positive and non-significant findings emerged in the model, transformational leadership (Time Two), group potency (Time One), and laissez-faire leadership were found to be directly associated with group potency (at Time Two). Group potency at Time Two was found to be directly associated with group processes.

In another integrative study Ancona and Caldwell (1992b) analysed indirect effects within a single model using path analysis. The model included the independent variables of tenure and functional diversity, with mediators of internal processes, external communication, innovation, budget and schedules as dependent variables. Positive relationships existed between tenure and internal processes, between functional diversity and external communication, and between external communication and innovation, budget and schedules. All of the other relationships between variables were significant but negative.

In summary, there was generally a strong and consistent correlation between performance effects and individual team member characteristics. The performance outcomes of team-level characteristics show that team-level characteristics positively affect team processes, but the relationship between team-level characteristics and team performance is not consistent. Analysing the effect of individual team member and team-level characteristics on team performance revealed that the two characteristics affect team performance through different mechanisms. Individual characteristics appear to enhance team performance directly; team level characteristics also enhance performance, but indirectly through their effects on team processes such as co-operation and communication (Stock 2004).

Chapter summary

Working in teams has become an inescapable component of our existence at work. With the imperative need to maximise organisational performance, teams have become an important focus of organisational research. In addition to the existing research that has been reviewed concerning models of team development and
factors affecting team performance, researchers, through proposed research frameworks, are continuing to consolidate the important elements of teams and how they are integrated.

In this chapter, team and group processes were discussed in terms of theories and frameworks such as social facilitation, team development models, and the social identity approach in order to understand how groups form and the factors that influence them. The final section of this chapter discussed team and group research in terms of factors that have been identified as critical to team performance. The I-P-O research framework was introduced, and an expanded version of this framework was presented that provided a more comprehensive understanding of relevant factors and how they interact to influence team performance. The importance of investigating moderating variables and conducting integrative research was also discussed.

Management of team performance is a critical challenge for many organisations. Our understanding of the factors that influence teams, and therefore impact upon their performance, can only be enhanced through extending current research. The theories and research presented within this chapter can assist managers and leaders in designing, integrating, resourcing, training, inducting, monitoring and rewarding teams.

Case study

The following case study highlights the challenges faced by teams when integrating multiple services and subsequently integrating teams within those services. A longitudinal, qualitative evaluation of these team integration processes is presented, with the focus being upon the challenges of team integration and the factors contributing to the success of these processes. Both individual-level and team-level variables are examined. This case study is presented to demonstrate the need for, and scope of, team research and management in organisations.

Background

In recent years, attempts at service integration within health sectors have become more prevalent (McGorry et al. 2008). Both the World Health Organisation and Australia’s National Public Health Partnership endorse health service integration as a key strategy for improving the health service experience of clients, professionals, and organisations alike (Allen & Stevens 2007).

However, research would indicate that failure to either fully implement and/or sustain service integration is common (Allen & Stevens 2007). Further, research has demonstrated that professionals and employees working within the service integration system, regardless of their support for the changes towards integration, have found the change experience highly stressful (van Knippenberg, van Knippenberg, Monden & de Lima 2004).
The reasons for this failure in service integration appear to centre upon the varying effectiveness of the change management strategies and people engagement processes employed by organisations on their journey towards service integration (Glendinning 2003).

The process of service integration has been defined as ‘...functions and activities aimed at the formation of a unified and comprehensive range of services in a geographical area, where the intent is to enhance the effectiveness of the delivery of services and optimize the use of limited resources’ (King & Meyer 2005, p. 479). Consequently, service integration involves teams working together, often in a new way, with new systems and processes. The following diagram depicts levels of service integration, and these levels are defined below.

**Figure 11.3** The service integration continuum

![Service Continuum Diagram](image)


Figure 11.3 above displays the five stages of service integration along a continuum:

1. **Separation** is the complete autonomy of services. This can be seen when two organisations or teams come together but operate as totally separate entities.

2. **Co-operation** occurs if a group or individual is perceived to be only co-operating with other workers or agencies when asked directly to do so. This may happen in the early stages of the team integration and is evident when the two teams start to communicate and share meetings, etc.

3. **Coordination** may involve teams, agencies, programs and/or services and results in improved delivery and patient care. The two teams commence sharing facilities and/or services.

4. **Collaboration** occurs when there is collaboration and consultation, with internal and external stakeholders, around issues including service delivery.

5. **Integration** involves the complete and formalised integration of services. This occurs when the two teams work seamlessly together and it is not evident or does not matter if a team member has originated from one team or the other.
The organisation

headspace Barwon is a consortium of agencies who came together in 2007 under the banner of ‘headspace’ to provide an integrated, coordinated, and comprehensive approach to the provision of health services for young people aged 12 to 25 living in the Barwon region. The aim of this service integration is to ensure that young people have an easy, single point of entry and a smooth navigation through relevant services, regardless of the nature of their health concern.

Following these first two years of integration, headspace Barwon decided to review the processes which had contributed to the creation of headspace Barwon thus far. The executive of headspace needed to understand the particular factors that contributed to a particularly successful service integration. Of specific interest were the factors contributing to successful integration of services and any key challenges faced: it was noted how these were addressed. These findings led to the first set of results (July 2009: Time One). A further evaluation of the integration of services was held a further two years later (May 2011: Time Two).

Data collection/findings

The initial review was completed in July 2009 (Time One) and a further evaluation was conducted in May 2011 (Time Two). Time One involved seventeen headspace Barwon workers participating in one of four focus groups and eleven stakeholder interviews. Time Two comprised 20 participants. Four focus groups were conducted using between two to seven participants. Transcripts were analysed using ‘thematic content analysis’ (Braun & Clarke 2006).

At Time One, participants indicated that the service integration had proceeded to a point on the service integration continuum somewhere between service co-operation and service coordination. For example, the teams were co-ordinating the client intake into their service. However, some teams were reticent to acknowledge the integration and continued to answer the telephone with the title of their original organisation. It is not uncommon for the introduction of change to cause some discontent and disruption. Not all aspects of the organisation simultaneously integrated, and not all personnel readily accepted the transformation. The experience of the ‘integration success’ of headspace Barwon was not shared by all levels of staff. From their comments, it appeared that some staff did not identify strongly with headspace Barwon, perhaps because they were still strongly attached to their previous agency identity. They did not yet see the two identities as compatible, or they perceived the headspace identity as devaluing their original identity.

Following the findings of Time One data, the major recommendation of the report was that headspace Barwon should prioritise the development and
implementation of strategies surrounding staff engagement and organisation identification which might include:

1. An organisation-wide planning day, in part to formally recognise the achievements of the original services. The planning day could also provide a platform for staff to understand the superordinate goals of the integrated entity.

2. Greater staff inclusion in both service planning and co-ordination, along with planning periods of service reflection and consolidation.

3. Consideration of additional cross-service social events, which may assist team building and in developing new informal networks.

*headspace* Barwon made both structural and system changes to accommodate the above recommendations which were contained in the report.

Two years following the original evaluation, at the Time Two evaluation, the participants indicated that they perceived the services and teams to be better integrated. During the focus groups participants were shown the service integration continuum, and each participant was invited to mark with a cross where on the continuum they perceived the level integration to be. The results can be seen in Figure 11.4 below.

**Figure 11.4** Participant perceptions of the level of service integration achieved at *headspace* Barwon, as indicated on the service integration continuum

Source: von Treuer, KM & Patton, A 2011, ‘*headspace* Barwon the story so far’, Deakin University, Melbourne, Australia.

Comments offered at Time Two by participants in the evaluation consisted of reflections of the organisational identification and rapid pace of change it took over the past two years to transform into *headspace* Barwon, and how initially this was accompanied by a great amount of confusion, effort and adjustment.

> It felt like it's going to be done whether you like it or not and so a lot of services had to change rapidly.

> There was a lot of confusion as well. Yes, there was. Confusion was very much part of it.

> Yeah and (we) probably didn't really see where we were heading … (and) when it's just this is how it's going to be, just do it, and you don't really
understand what you're doing it for, it's hard to get motivated I think.

It was acknowledged by the majority of people that, two years on, the amount of flux had settled and there was a much clearer sense that the new *headspace* was a better way of doing things.

I think it’s all coming together actually. There’s a great change, I feel, since a year ago. There seems to be a lot more clarity.

I think for a while it felt like we had to change the way we worked but we really just had to change the way we thought and still work the same.

But now it’s there you can see, okay, this is a better way of doing it … you can see where things should be going.

I think it’s settled a bit. I think just speaking personally…we all just found our little space and got on with our role and just let everything happen. I think things have settled down.

I think that process was difficult because it felt like you’ve got to change everything and we just had to change the way we thought a bit … and be in this building … and do all that stuff but still work the same. And I think now we’re coming to where we’re comfortable with doing what we do and doing that well … (we are) integrating as well.

The following table summarises the themes that enhanced service integration at Time One and Time Two.

**Table 11.1** Summary of the themes of the employee perceptions of the factors that impacted upon successful service integration at Time One and Two

<table>
<thead>
<tr>
<th>2009</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-existing networks in local health sector</td>
<td>Maintenance of strong brand awareness and funding opportunities</td>
</tr>
<tr>
<td>Strong foundations of existing services</td>
<td>Establishment of key work roles</td>
</tr>
<tr>
<td>National funding and resources</td>
<td>Opportunities and initiative taken to increase collaboration</td>
</tr>
<tr>
<td>Establishment of partnerships with high buy-in</td>
<td>Open communication channels</td>
</tr>
<tr>
<td>Hubs to achieve wide-spread service delivery</td>
<td>Management structure aligned to vision</td>
</tr>
<tr>
<td>Acquisition of building space and IT systems</td>
<td>Regular channels created for engaging staff as a team</td>
</tr>
<tr>
<td>The headspace Barwon model</td>
<td>Common and shared vision and purpose</td>
</tr>
<tr>
<td>Using the model as a communication tool</td>
<td>Increased emphasis on connecting with key partnerships</td>
</tr>
<tr>
<td>Strong focus by all on client outcomes</td>
<td>Increased access to shared client information</td>
</tr>
<tr>
<td>Collaboration with sector and</td>
<td>Increased opportunities to socialise</td>
</tr>
</tbody>
</table>
community reps
Early generation of brand awareness
Strong presence in community and sector
Establishment of a common language
Strong support from top leaders
Strategically built partnerships
Co-location

and build rapport with fellow employees
Access to valued supervision and support

Source: von Treuer, KM & Patton, A 2011, ‘headspace Barwon the story so far’, Deakin University, Melbourne, Australia.

Conclusions

Overall, staff saw the journey towards service integration for headspace Barwon as progressing. While not all of the data were presented here, it can be seen that the the new headspace team has moved, or was moving through the storming to norming stages. Communication and co-operation become critical issues while the challenges of the new team identity were identified.

For discussion

1. Interpersonal behaviour is an important aspect of service integration. Describe how social facilitation theory may be used to aid service integration.

2. Tuckman’s model of group development posits five stages of team development. Use the case study to link Tuckman’s stages to the service integration continuum model.

3. Part of the resistance of staff to service integration can be viewed as being related to social identity, social categorisation and conflict and co-operation. Describe how these three processes are evident in the case study.

4. Stock (2004) proposed five categories of research. Category three focused upon team processes and team performance. Use the case study to explain how some team processes may have a positive or negative effect on team performance.

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