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WORK TEAMS IN ORGANIZATIONAL CONTEXTS: DYNAMICS OF CHANGE, ADAPTATION AND LEARNING IN FLEXIBLE ENVIRONMENTS

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This review paper aims, first, to analyze the potential of team-based-organizations and their advantages for coping and adapting to flexible and uncertain environments. And secondly, to examine the effects that organizational dynamics may have on group processes and outcomes, with particular emphasis on phenomena such as team downsizing, membership changes, team learning processes, and other work terms arising from the requirements of flexibility. In addition, we also analyze the potential effects of these conditions on team performance and team efficacy. Finally, we summarize the main practical implications for organizational design and team management in dynamic and complex environments characterized by high levels of uncertainty and flexibility.
Key words: *Organizational flexibility, Work teams, Membership changes, Team learning, Adaptation.*

Este trabajo de revisión tiene dos objetivos. En primer lugar, se analizan las potencialidades de las organizaciones-basadas-en-equipos y de sus ventajas para el afrontamiento y la adaptación a entornos flexibles e inciertos. Y en segundo lugar, se examinan los efectos que estas condiciones y dinámicas organizacionales pueden ejercer sobre los procesos y los resultados grupales, dedicando especial atención a fenómenos como la reducción del tamaño del equipo, los cambios en la composición, los procesos de aprendizaje de equipo y otras disposiciones derivadas de los requerimientos de flexibilidad; asimismo, se analizan sus posibles consecuencias en relación con el rendimiento y la eficacia de los equipos. Finalmente, se resumen las principales implicaciones prácticas para el diseño de las organizaciones y la gestión de equipos de trabajo en contextos dinámicos y complejos caracterizados por altos niveles de incertidumbre y flexibilidad.
Palabras clave: *Flexibilidad organizacional, Equipos de trabajo, Cambios en la composición, Aprendizaje de equipo, Adaptación.*

The multiple modalities of work teams and team work have already been a *way of life* in organizations since the eighties of the last century. In a wide variety of activity areas, their use and effectiveness constituted a key element in the achievement of objectives, quality and organizational excellence. Thus, the *structures* -work teams -and *processes* -the modalities of team work- became the cornerstones of organizations. The working experience of an increasing number of people was inseparable from team membership, and team work had surpassed individual work as first choice in every type of organization. However, adapting to all of this was not going to be the last challenge.

The first decade of the 21st century has been characterized by significant and rapid changes in work and organizational contexts worldwide: increase in interdependencies (*globalization*), the use of widely varied technologies, the complex and distributed character of work, and, in general, the uncertainty and unpredictability of the economic, political, financial and business scenarios. This has led to dynamic *contexts* that bring with them the need to cope with new *demands* –in knowledge and skills, both technical and social- and *challenges* in our activity. Consequently, it has been necessary to reformulate and reinterpret the ways and forms of team functioning in these new contexts, both in public and private organizations (Goodwin, Burke, Wildman and Salas, 2009).

The current tendencies in organizational design consider the different team modalities as cornerstones of organizational architectures (Cordery, Morrison, Wright and Wall, 2010; Grant, Fried, Parker and Frese, 2010). Teams are used when errors lead to severe consequences; when the complexity of tasks exceeds individual capacity; when the context of the task is ill-defined, ambiguous or very stressful; when multiple, quick decisions are required; or when the lives of other people depend on the collective insight of experts (Salas, Cooke and Rosen, 2008).

Now more than ever, teams and team work become essential for the creation of dynamic configurations

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contingent to the demands of the contexts. At the same time, both their structure and functioning also become affected by these dynamic conditions. Thus, teams are simultaneously considered as *subjects* and *objects* of change, or as *transformation systems* or *transformed systems*. Consequently, we are faced with *environmental* systems – *environment* (*E-E [organizational environment – team environment]*), where the distal and the proximal interact at different levels according to complex patterns (Alcover, 1999; Guzzo and Shea, 1992).

From this ecological and systemic approach, individual, group or collective behavior is produced in a *behavioral setting*, which implies *opportunities* as well as *responsibilities* (Barker, 1960). Hence, the teams in organizations constitute behavior *settings* where adaptive, communication, interpersonal and coordination processes are developed, and, at the same time, are produced in organizational *behavior settings* (E-E systems) where the *input* (opportunities) becomes *results* (responsibilities) thanks to the requirements/roles and the cognitions shared by their members (Salas, Stagl, Burke and Goodwin, 2007). In short, organizational contexts constitute niches in which team processes take place, whose results repetitively modify the organizational contexts in which they are included in such a way that both dynamically shape the *conditions* and *results* of organizational functioning (Alcover, 2003).

The main objective of this manuscript is to review the implications of simultaneously considering work teams as *transformation systems* and *transformed systems*. In order to do this, we first analyze the potentialities of *team-based-organizations* as well as their advantages for coping with uncertainty and the adaptation to flexible and uncertain environments. Then, the effects of these organizational conditions and dynamics on group processes and results are examined. In this endeavor, we will dedicate special attention to phenomena such as team downsizing, membership changes, team learning processes and other dispositions derived from the demands of flexibility; in addition, we will analyze their possible consequences in relation to team performance and effectiveness. Finally, we will discuss the main practical implications for the design of organizations in detail.

TEAM-BASED-ORGANIZATIONS AS CONTEXTS

Only those organizations that are able to change and rapidly adapt to technological, cultural, financial, social and political changes will survive, and will even exploit opportunities hidden in the unexpected. Those organizations that doubt and are designed to *resist* or that slow down their adaptation processes will face decline and disappear. This 'mantra', currently dominating organizational design, can be summarized in the phrase "designing for change" (Lawler and Worley, 2006) and has inspired many organizations to create more agile and flatter structures to efficiently respond to these new environments. One of the most successful alternatives has been the design of team-based-organizations (Mohrman, Cohen and Mohrman, 1995), with a clear interdisciplinary or *transfunctional* character, and with a meticulous consideration of member capacity building (Kozlowski, Watola, Jensen, Kim and Botero, 2009).

The new team-based-organizational contexts entail three types of support that create opportunities for team effectiveness (Rico, Alcover and Tabernero, 2010): human resource management systems (HRMS) (training, performance assessment, feedback loops, benefits and compensation, etc.); the design of organizations based on multi-team systems and distributed teams, which allows interrelation between work teams, and these with the whole organization, articulates the flux of information transmission and coordination, and permits supports that facilitate resources and eliminate obstacles; and the climate and culture of organizational team support, and even the local and national cultures where they are found. These three types of support will be analyzed in the following sections.

Undoubtedly, the characteristics, competencies and dispositions of members are relevant to team performance and effectiveness (Stewart, 2006), but the characteristics and conditions given in the organizational contexts in which they are found are determinant for members individually and teams collectively to unfold their potentialities and achieve their objectives.

Human Resource Management Systems

Diverse results from research studies have highlighted the degree to which the alignment of human resources policies regarding the particularities of teams (for example, using hybrid individual or group rewards to reinforce their performance) has been directly related to a team's capacity for self-management (Kirkman and Rosen, 1999) at the same time as it produces an effect on its effectiveness (Pearsall, Christian and Ellis, 2010).

An important aspect is the need to combine the

management strategies of traditional teams (*face-to-face)* and teams with variable degrees of virtuality as well as teams that perform interdependent tasks with temporal or stable member compositions, or with variable commitments (full-time or part-time), which increases the complexity of managing people and teams where the differential contributions and asymmetries among its members (contract-related, roles, status, expectancies) cease to be the exception to become the norm (MacDuffie, 2008).

With respect to the impact of training and recruitment policies, a recent meta-analysis has confirmed the existence of a positive relationship between training received by teams and the improvement of both objective performance and the evaluations received from their supervisors (Salas, Nichols and Driskell, 2007). In addition, another study has shown how traditional training in team work skills has to be complemented with specialized training in the case of team coordination (or multi-team systems) given that simply strengthening team members does not guarantee that they are going to be more effective in a collective manner (Cobb, Mathieu and Marks, 2003). Finally, it is important that those in charge of training identify the preferences in the performance of team roles and assign these in a coherent manner. Other studies have shown positive relationships between the roles played and effective conflict management and other group processes that influence performance (Aritzeta, Ayestarán and Swailes, 2005).

Multi-team systems and coordination needs

As the complexity and specialization of work increases, it is more necessary for individuals and teams to communicate and increase their relationships of interdependence. In this regard, teams are efficient as they capitalize on the benefits of work specialization while being explicit about the need to coordinate efforts toward the achievement of common goals (DeChurch and Mathieu, 2009; Rico and DeChurch, 2010). Multi-team systems are defined as two or more teams directly and interdependently connected in response to environmental contingencies and oriented toward the achievement of collective goals (Mathieu, Marks and Zaccaro, 2001). Recent literature on multi-team systems points out that effective coordination among teams predicts benefits regarding their performance and internal processes, especially in highly interdependent settings (Marks, Mathieu, Alonso, DeChurch and Panzer, 2005).

Coordination mechanisms are related to the goal hierarchy of the multi-team system (Rico and DeChurch, 2010) and the team capacity for external relationships and boundary spanning, managing their team boundaries with other teams within the organization or even from other organizations, are keys for its effectiveness (Ancona and Caldwell, 1992). As interdependencies and the need for coordination in organizational contexts increase, the team capacity for these types of external relationship activities becomes essential for their own effectiveness and organizational outcomes (Joshi, Pandey and Han, 2009), and in them the *social capital* –or social relationships network– of the members plays a role as a key resource for the success of teams and organizations (Costa and Peiró, 2009; Zornoza, Orengo and Peñarroja, 2009).

On their part, high-involvement systems, which are especially relevant in designs geared toward change and innovation (Lawler and Worley, 2006), are good predictors of team productivity (Spreitzer, Cohen and Ledford, 1999) and create organizational and team climates that facilitate fluent performance and organizational effectiveness.

Organizational climate, culture and support

An organizational climate of openness and innovation has effects at different levels, facilitating group processes (communication, problem solving, creativity) and promoting the participation of its members in decision-making processes (Mathieu, Maynard, Taylor, Gilson and Rudy, 2007). A recent study has allowed us to verify that, in the long term, the positive effect of team climate on performance depends on the *strength* of the climate (González-Romá, Fortes-Ferreira and Peiró, 2009). In addition to overall climate, the mediating and modulating effects of different types of climate (e.g., innovation, goal-oriented, participation, or support) on team performance should be considered, effects that may vary according to whether performance is perceived by the members themselves or is evaluated by a supervisor. Consequently, organizations should undertake continuous actions to support the maintenance of the climate, as well as consider the contingent character of the different types of climate and their specific effects on team performance.

If we consider leadership style as an important organizational context component, several studies have shown that transformational leadership, along with support for innovation, interact in the creation of a climate

for excellence and have a direct effect on team innovation (Eisenbeiss, van Knippenberg and Boerner, 2008). There is also empirical evidence that the effect on the results of leadership oriented toward change is mediated by team climate, especially when it is related to climate for innovation (Gil, Rico, Alcover and Barrasa, 2005). Other studies have focused on the role organizational context plays in facilitating and promoting climates that allow teams to have a leadership geared to guaranteeing their capacity to adapt to change (Kozlowski et al, 2009).

In addition, the perception of organizational support by work team members has a positive influence on team potency (the degree to which they perceive themselves as capable of achieving their goals and being efficient) although this relationship is mediated by different group processes. Likewise, a positive relationship between team processes and the managers´ perceptions regarding their performance has been found, which is mediated by levels of team potency (Kennedy, Loughry, Klammer and Beyerlein, 2009). Just as positive effects have been found on team performance (Osca, Urién, González-Camino and Martínez-Pérez, 2005), it is feasible to suppose that the perception of organizational support will also have an influence on the collective efficacy of teams, or their beliefs regarding their capacity to perform a specific task (Gully, Incalcaterra, Joshi and Beaubien, 2003; Peterson, Mitchell, Thompson and Burr, 2000), and it will be necessary to investigate how this perception interacts with group processes and behaviors in the configuration of said beliefs, increasing the understanding of their antecedents (Tasa, Taggar and Seijts, 2007) and analyzing their consequences for the psychological wellbeing and performance of teams (Salanova, Llorens, Cifre, Martínez and Schaufeli, 2003).

Finally, an emergent line of research is centered on analyzing how the more general (local, regional and/or national) culture influences organizational culture and its orientations (*excellence, quality, service, client-oriented, etc.*) and, at the same time, team functioning (Gibson, 2003). For example, it is very probable that the concentration of technological-and-innovation based companies in specialized regions or poles where a culture of collaboration and loyal competence oriented toward the search of synergies is shared, contributes to work teams developing their own cultures and climates characterized by innovation and the achievement of excellence. An example of this in Spain at the university level is the creation of the so-called *campuses of excellence* which are based on these types of cultures and that aim to promote, by means of strategic alliances, the resources and capacities of the institutions and their environments through the collaboration and the strengthening of interuniversity and interdisciplinary teams.

CONDITIONS TEAMS FACE IN ORGANIZATIONAL CONTEXTS

In this section, the main demands teams are faced with in organizational contexts will be analyzed, choosing those that are currently more relevant: membership changes, team learning, and flexibility requirements specified in the work of distributed teams.

Composition changes

The needs for numeric, functional and temporal flexibility in organizations in the last 15 years has meant that teams have undergone frequent changes in the composition of their members. Re-structuring and downsizing have obliged many teams to work with fewer individuals than usual or to change partners with relative frequency according to fluctuations in demand and work-loads. However, not all changes in membership are the same or have the same effects (Morgeson and DeRue, 2006). Thus, it is necessary to consider, on the one hand, how many members are leaving the team and their characteristics, and on the other hand, the degree of structural change that is produced, whether hierarchy is maintained, is integrated or eliminated (that is, if it is changed from verticality to horizontality). The combination of these dimensions of re-composition and structural change are positively related to the levels of team adaptation, specifically with task behaviors, in response to disruptive changes in the organizational context (DeRue, Hollenbeck, Johnson, Ilgen and Jundt, 2008). It is important to indicate the buffering effect of team composition in coping with those changes, especially when dispositional variables of members such as emotional stability and extraversion are considered; traits that can help mitigate the negative effects of downsizing. This aspect can be related to the study of what is called the *emotional intelligence of work teams* (Jordan, Ashkanasi, Härtel and Hooper, 2002), as well as other personality factors (LePine, 2003), although its effects on performance and team effectiveness have still not been investigated in depth and the obtained results are not conclusive (Bell, 2007; Driskell, Goodwin, Salas, and O'Shea, 2006).

There are membership changes that can be positive as they bring *fresh air* to the teams, especially when these have a long experience of stability. For example, it has been shown that when changes only affect a small number of members and are gradual, the results are maintained and even improved, both in creative and innovation tasks (Perretti and Negro, 2007) and in problem solving (Alcover and Gil, 1999). It has also been found that an increase in membership changes has positive effects on performance when teams are recent, but it has the contrary effect when the teams have existed for a long time (Hirst, 2009). More research is still needed to know the effects of membership changes, taking into account, among other variables, the type of task and the degree of team member interdependence, the need for coordination with other teams in the organizational context or the short, medium and long term effects of these changes, given that the temporal context -the treatment of time in all its spheres- is unavoidable in future research on teams (Mohammed, Hamilton and Lim, 2009).

Team learning

In the last decade, the increase in the use of work teams as efficient tools for promoting the learning of the necessary knowledge to cope with the demands of dynamic environments has been verified in all types of organizations (Sessa and London, 2008). At the same time, it has been shown that the capacity and orientation toward group learning by members, significantly increases their effectiveness (Bundersonn and Sutcliffe, 2003), especially when they learn how to manage the growing uncertainty of tasks that characterizes their activity (Navarro, Díez, Gómez, Meneses and Quijano, 2008), creating a feedback loop that ultimately promotes the general effectiveness of organizations (Edmonson, 2003).

One of the models most used in work team learning is that of activities (processes) proposed by van Offenbeek (2001) who defines it as an iterative process where information (learning content) is 1) acquired; 2) distributed; 3) interpreted both convergently (mutual listening and help) and divergently (search for information and shared knowledge development); and 4) stored and retrieved when required. Their studies allowed us to verify that the greater the frequency of learning activities in a team, the greater the experience was that the team had really learnt something, as well as that the higher the frequency of such activities was in the team, the greater their performance. These results have also been verified in a Spanish sample (Alcover, Gil and Barrasa, 2004).

Team learning requires a series of conditions that facilitate collaboration among members. Among these the so-called psychological safety (Edmonson, 1999) stands out, defined as each person's belief about the absence of the risk of being threatened or rejected in a certain context or in the performance of a specific role, in this case, in the sphere of a work team. This author has identified diverse factors regarding the diversity of team members as potential barriers to the perception of psychological safety and, consequently, as obstacles for team learning. Specifically, she underlines that the characteristics of diversity (demographic, experience-related, origin or status) should not diminish the perception of psychological safety in teams, as this is a key mediator in team learning, which at the same time directly influences group results (Edmonson and Roloff, 2009).

Other studies have shown how certain cultural dimensions (distance of power, individualism/collectivism and masculinity), as well as the levels of internal cohesion, significantly influence the processes, the conditions and the results of team learning (Yorks, Marsick, Kasl and Dechant, 2003). This suggests the use, on the part of those responsible for human resource management, of learning strategies based on metaphors and methodologies that ensure equivocality and anonymity so as to reduce the possible negative effects of cultural differences. This cultural dimension, especially when we refer to multicultural teams, has also been highlighted in the formulation of team adaptation models (Burke, Priest, Wooten, Diaz-Granados and Salas, 2009), in which the last phase, after the assessment of the situation, the formulation of the action plan and the execution of said plan, specifically implies team learning (Burke, Stagl, Salas, Pierce and Kendall, 2006).

Organizational flexibility and distributed teams

Increasingly, all types of organizations structure a variable part of their tasks through work teams that go beyond geographical, temporal and cultural frontiers: these are the so-called *distributed teams* (Connaughton and Shufler, 2007). These are usually of a multinational and multicultural character, and also, frequently, interdisciplinary. In these teams, a great variety of team processes which have already been mentioned in this

article come together, such as the need for coordination; diversity and its possible associated deficiencies; virtual work or work mediated by information and communication technologies (ICT); confidence, psychological safety and team learning; communication barriers and problems; within-group conflicts; leadership functions, etc. (for different analyses of these concepts, see for example, Fiore, Salas, Cuevas and Bowers [2003]; Hinds and Bailey [2003]; Jarvenpaa, Shaw and Staples [2004]; Kirkman and Mathieu [2005]; Kirkman, Rosen, Tesluk and Gibson [2006]; Martínez-Moreno, González-Navarro, Zornoza and Ripoll [2009]; Ortega, Sánchez-Manzanares, Gil and Rico [2010]; Rico, Alcover, Sánchez-Manzanares and Gil [2009]; Rico and Cohen [2005]; Rico, Molleman, Sánchez-Manzanares and van der Vegt [2007]; Schiller and Mandiwalla [2007]; Zornoza, Ripoll and Peiró [2003]).

The interaction of these multiple factors creates complex work contexts whose processes are not always effective and that can prevent these teams from achieving their objectives. Distributed teams are not a simple solution for reaching synergies and economizing costs, and their use and management must be carefully planned, supervised and evaluated in order to achieve the high performance expected of them (Roper and Kim, 2007). Undoubtedly, it is one of the spheres in which organizations and teams are faced with the most demanding challenges, and in the future, the results of research and practice on distributed teams will be essential for new modalities of team work and organizational effectiveness.

CONCLUSIONS

Teams in organizations represent an inescapable field in both research and practice, in the academic as well as applied worlds. It is precisely for this reason that they are object of the liveliest defenses and the fiercest criticisms. For example, in a controversial article published a few years ago, Allen and Hecht (2004) proposed the term *«the romance of teams»* to refer to people´s beliefs regarding the high performance of teams. An attribution that was not empirically supported but that was assumed to be, a type of *halo effect* that made people perceive themselves (and be perceived by others) as more efficient when they work as a team, without real proof that this was true. However, rather than examining when teams function or not, it may be more effective to investigate, just as West, Brodbeck and Richter (2004) proposed in their reply to this article, how individuals are able to work more efficiently in teams to perform tasks that only those teams can do, and how managers can run team-based organizations in an optimal manner in order to contribute to organizational effectiveness. Let us think for a moment about some of the contexts where team work can be transcendental in our journey through life: firefighters, surgical teams, antiterrorist units, governments, pharmaceutical research teams, administration councils, air crews, etc. And not only in these cases, teams can sometimes have an influence on the identity of millions of people, and on their most intense and extreme emotions, such as can happen when a national soccer team wins the World Cup or is eliminated in the first rounds of the tournament or when clubs win competitions or go up to another category and a good part of the inhabitants of those cities and communities take their success as their own.

In the extremely complex and dynamic societies of knowledge in which we live, it is probable that the increasing number of tasks and responses to unexpected situations and problems depend on teams and collaborative work (Gil, Alcover and Peiró, 2005). Organizational and social contexts demand them and people have to cope with these demands in the best possible manner. Investigating and learning from experience seems to be the best way of responding to these challenges, and all this also requires a team context of cooperation and synergy among people who, without renouncing to their individuality, learn to integrate it into their collective identities. People in team contexts, and teams in organizational contexts, are and will be our *behavior settings,* our *E-E* systems, our biome, and our present and future will depend on our capacity to adapt to these.

In spite of the above, although there is a tendency to prioritize this need of the *adaptation* of individuals and teams to the demands of more ample organizational and socio-economic contexts, it is advisable to remember that it is also important for organizations to adapt to the needs, characteristics and objectives of individuals. The excessive emphasis that the literature and organizational practices usually place on the *adjustment* and *adaptation* of individuals cannot entail forgetting that *other organizations, other jobs, and* other *social relations* are possible. Individuals in teams, individuals in organizations, teams in organizations and organizations in their contexts: however, it is desirable that adjustments and adaptations are produced in all directions, and that

from the research field we respond decisively to the multilevel relationships that appear among these three elements, so that in the applied field a satisfactory and simple response can be given to the complex demands of the contexts which make up our productive environment and service delivery.

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