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ABSTRACT: Teams have become a commonplace feature of today's organizations and the basic unit through which work is carried out in organizations. Organizations seem to increasingly rely on teams rather than individuals to accomplish key and complex tasks in an effort to decentralize decision-making and respond more flexibly to environmental and competitive challenges. This proliferation of different studies on determinants of team performance underlie the idea that effective team performance is not the automatic result of just bringing team members together to accomplish interdependent tasks. This study aims at investigating how relational patterns developed among team members could affect team performance. In particular, differently from previous studies, we argue that strong ties are not the prerogative of only long lasting teams, but they can exist also among members of newly re-shaped teams, as they could derive from them having worked together extensively in the past. Therefore, our goal is to analyze how these two different relational patterns could affect team performance. In doing so, we will use two different theoretical perspectives: Human capital to take into account individual team members characteristics (i.e. knowledge, expertise) and social capital (to take into account the role of relational patterns developed among team members). We will test our model using longitudinal data on sport teams' membership and their performance, focusing on the case of the Italian Basketball Major League (Serie A-1).

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Ph.D. in Business Administration and Management

**THE ROLE OF RELATIONAL PATTERNS
IN TEAM PERFORMANCE**

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INTRODUCTION

Teams have become a commonplace feature of today's organizations and the basic unit through which work is carried out in organizations. In the last decades, as the business environment has increased its degree of complexity, competitiveness and uncertainty, there has been a significant increase in the use of teams as a key approach to organize work (e.g. Cappelli and Rogowsky, 1994; Katz, 2001; Spreitzer, Cohen and Ledford, 1999; Stewart and Barrick, 2000).

Such intensive use of teams has been aimed at realizing different organizational advantages such as, for example, increasing efficiency of organizational processes, improving employee motivation, increasing innovativeness, and improving management of the boundaries with other companies. Organizations seem to increasingly rely on teams rather than individuals to accomplish key and complex tasks in an effort to decentralize decision-making and respond more flexibly to environmental and competitive challenges (Gerard, 1995; Katz, 2001; Mohrman, Cohen and Mohrman, 1995).

The increased presence of team structures in contemporary organizations has been paralleled by a vigorous stream of theory and applied research. Both management and academic press have increasingly selected teams and team performance as important areas for research in response to the increased use of teams in organizations. As a result, in the last two decades several books and articles have been written (for a review, see for example Cohen and Bailey, 1997; Ilgen, Hollenbeck, Johnson and Jundt, 2005). In particular, researchers have attempted to understand factors contributing to team performance (for a review, see for example Guzzo and Dickson, 1996; Ilgen, 1999; McGrath, Arrow and Berdahl, 2000). This proliferation of different studies underlie the idea that effective team performance is not the automatic result of just bringing team members together to accomplish interdependent tasks (Cohen and Bailey, 1997; Salas, Stagl and Burke, 2004; Steiner, 1972). Effective team performance represents a goal as desiderated as difficult to achieve.

In this study, our goal is to investigate how relational patterns developed among team members could affect team performance. In particular, we focus on the

relationship between team stability and team performance. Change and stability in team membership are popular and important topics in the team and organizational behavior literature. There have been many studies investigating turnover at the group level and assessing its impact on performance (for a review, see Akgün and Lynn, 2002). In general, two main schools of thought have emerged. The first claims that a team stability is contributing to team performance, facilitating the creation of routines, common languages and trust within the group (e.g. Eisenhardt and Schoonhoven, 1990; Pelled, Eisenhardt and Xin, 1999). On the other hand, the second school of thought suggests that under certain conditions an unstable group could be beneficial to team performance. For example, Katz (1982) in his study about R&D teams dedicated to innovative tasks found an inverted U-shaped relationship between the duration of the relationships within a team and its performance. Similar results have been found by other authors, such as Bantel and Jackson (1989), Berman, Down and Hill (2002) and Hansen (1999).

However, both schools have analyzed the issue of team stability focusing on the kind of ties existing among groups' members, and sharing the implicit assumption that a stable team is characterized by the presence of strong ties among its members, while a team whose members change often is characterized by weak ties. In our study, we argue that strong ties are not the prerogative of only long lasting teams, but they can exist also among members of newly re-shaped teams, as they could derive from them having worked together extensively in the past. Therefore, our first goal is to analyze how these two different relational patterns could affect team performance.

In doing so, we will use two different theoretical perspectives: Human capital to take into account individual team members characteristics (i.e. knowledge, expertise) and social capital (to take into account the role of relational patterns developed among team members. Further, we will would also like analyze how recent studies on organizational routines could help to reconcile such contrasting contributions emerging from previous studies. In fact, both schools of thought have analyzed the issue of team stability sharing the implicit assumption that routines are a source of inertia. This assumption is consistent with the traditional perception of routines, which have commonly been seen as static and unchanging objects, re-enacting the past (e.g. Nelson and Winter, 1982; Baum and Singh, 1994; Aldrich, 1999; Simon, 1945). In contrast to

this traditional view of routines, recent studies suggest that routines are certainly repetitive, but not necessarily fixed or unchanging (e.g. Feldman and Pentland, 2003; Howard-Greenville, 2005). In particular, these recent studies, while recognizing for the routines' inertial characteristics, have considered also the potential for endogenous change in organizational routines themselves (Feldman and Pentland, 2003). One important mechanism that allow routines to contribute both to change and stability is represented by the connections that routines make between individuals (Feldman and Rafaeli, 2002). Therefore, this new perspective on routines may help in explaining for contrasting results on the relationship between team stability and team performance.

We tested our model using longitudinal data on sport teams' membership and their performance, focusing on the case of the Italian Basketball Major League (Serie A-1). In particular, we collected data on teams and players that have played in Serie A-1 between 1987 and 2002.

CHAPTER 1.

TEAMS AND THE ANTECEDENTS OF TEIR PERFORMANCE

Teams have become a commonplace feature of today's organizations and the basic unit through which work is carried out in organizations. In the last decades, as the business environment has increased its degree of complexity, competitiveness and uncertainty, there has been a significant increase in the use of teams as a key approach to organize work (Dunphy and Bryant, 1996; Jackson, 1996; Stewart and Barrick, 2000; Zakarian and Kusian 1999). In 1993, for example, 68% of Fortune 1000 companies reported that they used self-managing work teams compared to 47% in 1990, and 28% in 1987 (Lawler, Mohrman and Ledford, 1995; Spreitzer, Cohen and Ledford, 1999). In examining data on 56,000 US production workers, Cappelli and Rogowsky (1994) found that one of the most common skills required by new work practice is the ability to work as a team. Fiore, Salas and Cannon-Bowers (2001) found that 80% of the surveyed workers was member of at least one team, and they suggested that this estimate will continue to increase in step with evolving environmental complexities.

Such intensive use of teams has been aimed at realizing different organizational advantages such as, for example, increasing efficiency of organizational processes (Banker, Field, Schroeder and Sinha, 1996), improving employee motivation (Neumann, Wagner and Christiansen, 2003), increasing innovativeness (Sethi, Smith and Park, 2001), and improving management of the boundaries with other companies (Cross, Yan and Louis, 2000). Work teams are considered to be "an integral tool aiding continuous improvement in work operations" (Cutcher-Gershenfeld, Nitta, Barnett and Bellhedi, 1994: 42). Organizations seem to increasingly rely on teams rather than individuals to accomplish key and complex tasks in an effort to decentralize decision-making and respond more flexibly to environmental and competitive challenges (Gerard, 1995; Katz, 2001; Mohrman, Cohen and Mohrman, 1995).

The increased presence of team structures in contemporary organizations has been paralleled by a vigorous stream of theory and applied research. Both management and

academic press have increasingly selected teams and team performance as important areas for research in response to the increased use of teams in organizations. As a result, in the last two decades several books and articles have been written (for a review, see for example Bass, 1982; Campion, Medsker and Higgs, 1993; Cohen and Bailey, 1997; Guzzo and Dickson, 1996; Ilgen, 1999). Before going on in the review of the existent literature on team performance, we provide some key definitions about team and different types of team.

1.1. Key definitions

Teams have been investigated by many research disciplines (psychology, organizational behavior, marketing, etc.). In consequence, there are multiple definitions of teams. One widely established definition describes teams as a collection of individuals who are interdependent in their tasks, who see themselves and who are seen by others as an intact social entity embedded in one or more larger social systems (for example, business unit or the corporation), and who share responsibilities for outcomes (e.g. Alderfer, 1977; Devine, 2002; Hackman, 1987; Guzzo and Shea, 1992; Sundstrom, DeMeuse and Futrell, 1990).

In defining teams, the academic literature has sometimes discussed a distinction between teams and groups. While the management literature has tended to use the term "team" (empowered teams, quality improvement teams, etc.), the academic literature has tended to use the word "group" (group dynamics, groupthink, etc.). Some authors have used the label "team" for groups that are characterized by a high degree of interdependence and "groupness" (see for example, Katzenbach and Smith, 1993). Nevertheless, a different use of these terms is not widely shared (e.g. Cohen and Bailey, 1997; Guzzo and Shea, 1992), and thus, we do not differentiate in our use of these terms.

Another well discussed distinction regards the type of team (e.g. Banker, Field, Schroeder and Sinha, 1996; Cannon-Bowers, Tannenbaum, Salas and Volpe, 1995; Katzenbach and Smith, 1993; Devine, 2002; Kozlowsky and Bell, 2002). One widely

established taxonomy categorizes four types of teams¹: (1) work teams, (2) parallel teams, (3) project teams, and (4) management teams (Cohen and Bailey, 1997).

Work teams are the type of team most people think about when discussing teams. Work teams are “continuing work units responsible for producing goods or providing services” (Cohen and Bailey, 1997: 242). Their membership is typically stable, usually full-time, and well defined (Cohen, 1991). Work teams are found both in manufacturing and service settings; examples include mining crews (Goodman and Leyden, 1991), apparel manufacturing teams (Batt and Appelbaum, 1995), and audit teams (Gupta, Dirsmith and Fogarty, 1994). Traditionally, work teams are directed by supervisors who make most of the decisions about what is done, how is done, and who does it. This category includes also another form of work team called a variety of labels (self-managing, autonomous, empowered). Typically, this type of work team involve team members in making decisions that were formerly the province of supervisors and managers (Cohen and Bailey, 1997). Examples include self-managing workshop teams (Pearson, 1992) and telecommunications teams (Cohen and Ledford, 1994).

Parallel Teams pull together people from different work units or jobs to perform functions that the regular organizations is not equipped to perform well (Ledford, Lawler and Mohrman, 1988; Stein and Kanter, 1980). They literally exist in parallel with the formal organizational structure (Cohen and Bailey, 1997). Parallel teams are used for problem-solving and improvement-oriented activities. Example include quality improvement teams, task forces, and quality circles (Steel, Jennings and Lindsey, 1990).

Project Teams produce one-time outputs, such as a new product or service, a new information system, or a new plant (Mankin, Cohen and Bikson, 1996). While work teams are continuous in nature, project teams are typically time-limited. Their tasks are usually non-repetitive and involve considerable application of knowledge, judgement, and expertise (Cohen and Bailey, 1997). Frequently, project teams draw their members from different disciplines and functional units, so that specialized expertise can be applied to the project. For example, new product development teams often draw their members from marketing, engineering, and manufacturing. When a project is completed, the members either return to their functional unit or move on the next project.

¹ Other authors offer slightly different typologies (e.g. Katzenbach and Smith, 1993; Mohrman et al., 1995; Sundstrom et al., 1990, but their categories overlap with ours.

Management Teams coordinate and provide direction to the sub-units under their jurisdiction, laterally integrating interdependent sub-units across key business processes (Mohrman et al., 1995). The management team consist of senior managers (such as, for example, vice-presidents of R&D, manufacturing, marketing, and quality) who are responsible for the overall performance of a business unit. At the top of the organization, the executive management team establishes the firm's strategic direction and manages its performance (Cohen and Bailey, 1997). Management teams can help companies improve their performance by applying collective expertise, integrating disparate efforts, and sharing responsibility for the success of the firm (Mankin et al., 1996)

1.2. A review of the antecedents of team performance

As we have seen in the introduction of this chapter, teams represent invaluable resources for the organization and they have been increasingly used to perform complex tasks in uncertain and competitive environments. The extensive use of teams has been observed in such industries as, for example, telecommunication (Batt and Appelbaum, 1994; Cohen and Ledfor, 1994), computer (Hansen, 1995; Magjuka and Baldwin, 1991; Martz, Vogel and Nunamaker, 1992), film (Delmestri, Montanari and Usai, 2005; Faulkner and Anderson, 1987; Jones, 1996), health care (Zimmerman, 1994), electronics (Levi and Slem, 1995; Pinto, Pinto and Prescott, 1993) and semiconductors (Eisenhardt and Schoonhoven, 1990).

One reason for the extensive use of teams in such contexts could be tracked in the fact that teams represent the locus of knowledge that goes above and beyond what the single individuals may contribute to the firm. In other words, the motivating premise underlying the use of teams seems to be that individuals lack the full knowledge required to perform complex tasks. Due to their complexity and sophistication, the knowledge is diffused among team members. In this way, through the bundling of different competencies and perspectives within a team, team decisions and actions are more likely to encompass the full range of perspectives and issues that might contribute to the success of a collective venture. This is the case, for example, of teams working in new product development, where members represent different disciplines and each team member possesses different information, knowledge, and expertise that bear on a

particular aspect of the task (Akgun and Lynn, 2002; Van der Vegt and Bunderson, 2005).

On the other side, performing a complex task usually requires also coordinated action and mutual adjustment among team members in order for it to be executed with precision. In fact, the knowledge required to perform complex tasks is not purely technical, but it has also an important interpretative component (Berman, Down and Hill, 2002). The effectiveness with which individuals perform their tasks depends on their interpretation of how other team members are simultaneously performing their tasks while adjusting to unpredictable environmental events. Thus, a constant process of mutual adjustment and synchronization is required for the collective task to be executed with precision. For illustration, envisage the coordination required by some individuals on a large sailing boat to simultaneously change foresail while rounding a mark in rough seas during a close race. This is a complex situation in which a simple error can rapidly magnify into a major adverse event unless all participants not only perform their described tasks, but also adjust rapidly to the way in which others are performing their tasks and to unpredictable events (e.g. a lull in the wind, a large wave, other boats' actions). In this example, each individual possesses but a part of the whole and has a role that s/he is assigned to (tactician, helmsman, halyard men, etc.). In order to perform well, however, it is not enough each individual performs well his/her own tasks. It is fundamental to adjust and coordinate each individual's action to other team members actions. Only in this way, is it possible to increase the overall team performance.

Another example is represented by teams that operate the flight decks of aircraft carriers. Aircraft carriers represent an example of high reliability organizations, as they require nearly error-free operations all the time because otherwise they are capable of experiencing catastrophes (Roberts, 1990; Weick and Roberts, 1993). In order to achieve this goal, it is crucial that such teams perform effectively their tasks. Also in this case, each team member lacks the full knowledge required to undertake the roles of others and the effectiveness with which individuals perform their prescribed tasks depends also on their interpretation of how others are simultaneously performing their tasks. Thus, a constant process of mutual adjustment and synchronization is required for the collective task to be executed with precision. As Weick and Roberts noted (1993: 363), in performing their individual tasks the members of these teams "construct their

actions (contribute) while envisaging a social system of joint actions (represent), and interrelate that constructed action with the system that is envisaged (subordinate)".

Such considerations and examples underlie the idea widely shared in literature that effective team performance is not the automatic result of just bringing team members together to accomplish interdependent tasks (Cohen and Bailey, 1997; Salas, Stagl and Burke, 2004; Steiner, 1972). Effective team performance represents a goal as desiderated as difficult to achieve. In fact, as teams constitute complex organizational structures, their effectiveness does not depend on a single factor, but is contingent upon different drivers. Furthermore, failure to master an understanding of the factors that influence team effectiveness can result not only in poor performance, but also in catastrophe and chaos (Janis, 1972; Salas et al., 2004).

Not surprisingly, thus, the increased presence of teams in contemporary organizations has been paralleled by a vigorous stream of theory and applied research. In hundreds of studies, researchers have attempted to understand factors contributing to team performance (for a review, see for example Guzzo and Dickson, 1996; Ilgen, 1999; Ilgen et al., 2005; Marks, Mathieu and Zaccaro, 2001; McGrath, Arrow and Berdahl, 2000; Salas et al., 2004). Within the literature, an input-process-output (IPO) framework has evolved (Barrick, Stewart, Neubert and Mount, 1998; Hackman, 1987; McGrath, 1984; Steiner, 1972). This framework contends that a variety of input factors affect the interpersonal transactions (that take place among team members²), which in turn influence team performance. Several authors (e.g. Hackman, 1990; McGrath, 1984; Paris, Salas and Cannon-Bowers, 2000) suggest to distinguish two main categories of relevant input variables affecting team performance: Characteristics of the individual team members (such as personal skills, attitudes, and behaviours) and team-level characteristics (cohesion, homogeneity, norms, etc.).

Regarding the former category of variables, previous studies have investigated different individual characteristics such as personal traits, like extroversion, agreeableness, involvement, and team orientation (Barry and Stewart, 1997; Beersma et al., 2002; Cohen, Ledford and Spreitzer, 1996; Isabella and Waddock, 1994), experience (Ancona and Caldwell, 1992), knowledge (Bourgeois and Eisenhardt, 1988; Brockmann and Anthony, 2002; Denison, Hart and Kaha, 1996), individual creativity

² These intra-group processes refer to the interaction between team members and include communication, cooperation, and conflict.

(Taggar, 2002), and cognitive abilities (Neumann and Wright, 1999). For almost all the investigated personal traits, a positive effect on team performance has been found³. In particular, it seems important to mention the positive performance implication of team orientation, which refers to a person's preference to work in a team (Campion et al., 1993; Isabella and Waddock, 1994). Findings related to other individual variables are more controversial. While some studies provide evidence for the positive link between team performance and experience or cognitive abilities (Ancona and Caldwell, 1992; Bourgeois and Eisenhardt, 1988; Taggar, 2002), others do not (Michel and Hamrick, 1992; LePine, Hollenbeck, Ilgen and Hedlund, 1997). In sum, the extant literature on individual characteristics suggests that these variables are important factors contributing to team effectiveness (Shaw, 1981). Teams require qualified members who have the necessary technical and social skills to operate in the team (Levi and Slem, 1995). Teams, in fact, are more likely to be effective if their members are able to dynamically display critical knowledge, skills and attitudes.

However, individual team members characteristics are not enough to explain how teams perform. We have to consider also the team-level characteristics. In previous studies investigating the impact of team-level characteristics on team performance, researchers have most frequently examined the following variables:

- *Team size*: Past research suggests that size has a curvilinear or inverted U-shaped (Cohen and Bailey, 1997; Steiner, 1972) relation to effectiveness such that too few or too many members reduce performance. However, some studies (Campion et al., 1993; Eisenhardt and Schoonoven, 1990; Magjuka and Baldwin, 1991) found that increasing group size actually improved performance without limit.
- *Team heterogeneity/diversity*: Which refers to the degree of differences between members of a team on a number of characteristics such as, for example, knowledge and skills (Magjuka and Baldwin, 1991), age (Wiersema and Bird, 1993), and educational and functional background (Ancona and Caldwell, 1992b; Smith et al., 1994; Eisenhardt and Tabrizi, 1995). Such studies did not yield consistent findings: Some found a positive relationship

³ Only one study can provide evidence for a non-linear effect to the link between extroversion and team performance (Barry and Stewart, 1997).

(e.g. Smith et al., 1994); others a negative relationship (e.g. Halebian and Finkelstein, 1993); others no relationship at all (e.g. Ancona and Caldwell, 1992b). A possible explanation suggested by several authors (e.g. Knight et al., 1999; Schippers et al., 2003; Van der Vegt and Buderson, 2005) is that team diversity seems to have a double effect. It may enable a broader range of perspectives that could be useful to team effectiveness, but it may also results in increased communication, coordination, and control costs, which could be detrimental to team performance. Thus, the overall effect of heterogeneity on team performance depends also on other context variables (e.g. environmental and task characteristics).

- *Team cohesiveness*: Which refers to the degree of interpersonal attraction and sympathy among team members (Kidwell, Mossholder and Benner, 1997). Team cohesiveness is positively related to performance as some previous studies found a moderate positive relationship between cohesiveness and performance (e.g. Evans and Dion, 1991; Gully, Devine and Whitney, 1995; Mullen and Cooper, 1994).
- *Decision autonomy of the team*: the majority of previous studies found the level of autonomy has a positive impact on team performance (e.g. Campion et al., 1993; Cohen and Ledford, 1994). However, other researches found a negative relationship (e.g. Ancona, 1990; Kim and Lee, 1995), in particular with reference of project teams. Some possible explanations suggested are that either these results might stem from some cultural different disposition to the acceptance of hierarchical arrangements and risk-taking (Kim and Lee, 1995), or the professionals (who typically belong to project teams) enjoy discretion of other aspects of their work, and may view leaders' activities in assigning work, coordinating activities, and clarifying procedures as enabling greater efficiency (Cohen and Bailey, 1997).

In this research, we want to focus our analysis on another important variable that could contribute to team performance: *team stability*. Change and stability in team membership are popular and important topics in the team and organizational behavior literature. There have been many studies investigating turnover at the group level and assessing its impact on performance (for a review, see Akgün and Lynn, 2002).

However, this relationship is still debatable, since findings emerging from previous studies are contradicting.

1.2.a Team stability and its influences on team performance

As we said before, there have been many studies investigating the relationship between team stability and performance. Nevertheless, this relationship is still debatable because of contradictory findings.

For example, Katz (1982) in his study of 50 R&D project teams pointed out different and contrasting consequences of team stability. According to his findings, team stability could lead first to behavioural stability: Team members interacting over long period will develop standard work patterns that are familiar and comfortable, patterns in which routine and precedent play a relatively large part. In fact, teams strive to structure their work environments to reduce the amount of stress they must face by directing their activities toward a more workable and predictable level of certainty and clarity (Thompson, 1967; Pfeffer, 1981). In other words, teams tend to establish certain stable structures of interlocked behaviors and relationships simply because it keeps them feeling secure and confident in what they do. However, team members who have been performing their jobs for extended time periods are relatively less responsive to the challenging aspects of their project activities. Such individuals come to rely more and more on their customary ways of doing things to complete their everyday project requirements. Thus, such behavioral stability could increase over time the tendency of long-tenures teams to become increasingly isolated from outside sources of relevant information and important new ideas. With increasing team longevity, project members gradually become less receptive toward communications that threaten to disrupt significantly their comfortable and predictable work practices and patterns of behavior (Staw, 1977; Katz, 1980). In this way, team members tend to develop a sort of selective exposure: They communicate only with those whose ideas and viewpoints are in accord with their own interests and current practices.

Akgün and Lynn (2002) found that team stability could affect positively both team learning and its ability to launch a product faster. In fact, if project managers or individual team members change frequently during a project, then the knowledge gained by them might be lost by being removed from the team. Instead, when team members

are familiar one another, there is no losing in the knowledge or learning collected by a team, and, thus, it can carry out its work with greater effectiveness and speed (see also Guzzo and Dickson, 1996).

Other researches on team turnover indicate that there could be a positive impact of turnover on team performance (e.g. Hom and Griffeth, 1995): Under highly turbulent and uncertain environments, shaking up teams, by moving people off a team or bringing new people on it could enhance team performance, improve team learning and accelerate speed. Grunfeld and Fan (1999), and Levine and Moreland (1999) note that rapidly changing environments can obsolete group mental models, and, thus, group member changes can provide a culture shock that stimulates critical thinking about group practices. New team members can bring with them new mental models a different perspective and way of thinking that is needed to expand the teams' views and perspectives (Klimosky and Mohammed, 1994).

Finally, King and Anderson (1990) asserted that short-lived groups might be more creative, but expected group longevity to help cohesiveness. Research by Goodman and Leyden (1991) suggests that teams need some time to get to know each other, before they can become well-functioning teams.

It is possible to categorize previous studies on team stability into two main schools of thought. The first claims that a stable group is contributing to firm's success. Proponents of this school support the idea that team stability could have positive effects on team performance, facilitating the creation of routines, common languages and trust within the group (Eisenhardt and Schoonhoven, 1990; Pelled, Eisenhardt and Xin, 1999). On the other hand, the second school of thought suggests that under certain conditions an unstable group could be beneficial. These authors indicate that team stability may not be universally good and claim that the relationship between group longevity and performance is non-monotonic in form. For example, Katz (1982) in his study about R&D teams dedicated to innovative tasks found an inverted U-shaped relationship between the duration of the relationships within a team and its performance. Similar results have been found by other authors, such as Bantel and Jackson (1989), Berman, Down and Hill (2002) and Hansen (1999).

One discriminating factor that may account for these apparently contradictory results may be the context in which teams operate. The literature suggests that stability

constitutes a highly desirable attribute for teams working in contexts characterized by logic of exploitation, which includes 'such things as refinement, choice, production, efficiency, implementation, execution' (March, 1991: 71). Weick and Roberts (1993) give an example of context in which team stability is a desirable attribute when they talk about teams that operate the flight decks of aircraft carriers and that 'are required nearly error-free operations all time, because otherwise they are capable of experiencing catastrophes' (Weick and Robert, 1993: 357). On the other hand, in contexts characterized by logic of exploration where teams have to carry out highly innovative and uncertain tasks (March, 1993), team stability might have a negative impact. In fact, once a coalesced way of doing things has emerged in such teams, individuals within the group may be unwilling or unable to adopt new modes of behavior, particularly if they involve the unlearning of existing tacit routines. In this way, relational longevity may be detrimental by limiting the group's creativity and ability to break with the past patterns, if need arises.

This research tries to reconcile these contrasting results emerging from previous studies focusing on how relational patterns developed among team members could affect team performance. In particular, we will focus on the the effects on team performance of team stability, while at the same time accounting also for the presence of strong ties. It is our conviction, in fact, that these two dimensions (team stability and nature of the ties) are not totally overlapping and, thus, need to be distinguished from each other (see figure 1).

Figure 1. Team stability and nature of the ties.

		<i>Nature of the ties</i>	
		Weak	Strong
<i>Team stability</i>	High		
	Low		

Previous studies have analyzed the issue of team stability focusing on the kind of ties existing among groups' members, and sharing the implicit assumption that a stable team is characterized by the presence of strong ties among its members, while a team whose members change often is characterized by weak ties. Thus, previous studies have analyzed the effects of weak and strong ties on team performance, or the influence of team stability or change on team effectiveness, but they have never combined these two dimensions to account for different contributions. On the opposite, we claim that strong ties are not the prerogative of only long lasting teams, but they can exist also among members of newly re-shaped teams, as they could derive from them having worked together extensively in the past.

Therefore, our first goal is to analyze how these different relational patterns could affect team performance. In doing so, we will use two different theoretical perspectives to justify our arguments: human capital and social capital.

CHAPTER 2.

THEORETICAL BACKGROUND

As we have seen in the previous chapter, change and stability in team membership are relevant factors affecting team performance. Many studies have been conducted on this issue and the findings are highly contextual: that is, team stability has shown to be beneficial to team performance for certain aspects, while it seems to be detrimental for others.

More specifically, team stability has a positive effect on team performance because it facilitates the creation of routines, shared norms, common languages and trust within the group (Eisenhardt and Schoonhoven, 1990; Pelled, Eisenhardt and Xin, 1999). In fact, team members interacting over a long period of time will be able to develop standard work patterns that are familiar and comfortable, patterns in which routine and precedent play a relatively large part. In this way, teams establish certain stable structures of interlocked behaviors and relationships, which lead to synchronicity and a better execution of the required tasks (Berman, Down and Hill, 2002; Weick and Roberts, 1993). Further, such stable patterns allow individuals to come to a shared understanding of why certain actions are appropriate for the organization, increasing their ability to coordinate and adapt (Feldman and Rafaeli, 2002). In other words, team stability seems to favor the emergence of a collective mind, i.e. "a distinct higher-order pattern of interrelated activities" grounded in and emerging from "individual actions" (Weick and Roberts, 1993: 374). After an initial learning period, in which shared cognitive schemata are formed, individuals become able to "construct their actions (contribute) while envisaging a social system of joint actions (represent), and interrelate that constructed action with the system that is envisaged (subordinate)" (Weick and Roberts, 1993: 363). A collective mind is the combination of individual cognitive schemata, patterns, or gestalts acquired through mutual experience and expressed through unconscious synchronicity of action when the group is confronted with complex tasks. In this way, such stable patterns allow individuals to come to a shared understanding of why and when certain actions are appropriate, increasing their ability

to coordinate and adapt, which, in turn, leads to better perform complex tasks (Akgün and Lynn, 2002; Berman et al., 2002; Weick and Roberts, 1993).

However, once a collective mind has coalesced around a set of interdependent individual schemata, it may be progressively more difficult to alter them. This is particularly problematic in case team process and schemata become routinized around a taken-for-granted way of interacting (Berman et al., 2002), as well as when the organization is facing a particularly turbulent environment (Levine and Moreland, 1999). In other words, team members, who have been performing their jobs together for an extended time come to rely more and more on their customary ways of doing things to complete their task requirements. Thus, with increasing team stability, team members could gradually become more isolated from outside sources of relevant information and new ideas, and less receptive toward communications that threaten to disrupt significantly their comfortable and predictable work practices and patterns of behavior (Katz, 1982). In this way, individuals within the team may be unwilling or unable to adopt new modes of behavior, particularly if they involve the unlearning of existing routines, and, thus, team stability may be detrimental to team performance by limiting the team's ability to break with the past patterns, if need arises (Bantel and Jackson, 1989; Berman et al., 2002; Hansen, 1999; Katz, 1982).

This view, however, is characterized by the implicit assumption that routines are a source of inertia. This assumption is consistent with the traditional perception of routines, which have commonly been seen as static and unchanging objects, re-enacting the past (Nelson and Winter, 1982; Baum and Singh, 1994; Aldrich, 1999; Simon, 1945; Hannan and Freeman, 1983). However, in contrast to traditional views of routines, recent studies have shown that routines are sources to both stability and change (Feldman, 2000; Feldman, 2003; Feldman and Pentland, 2003; Feldman and Rafaeli, 2002; Gersick and Hackman, 1990; Howard-Greenville, 2005; Pentland and Feldman, 2005; Pentland and Reuter, 1994). The everyday use of routines can bring about change (Feldman, 2000; Feldman and Pentland, 2003), and the intentional alteration of routines can result in no change (Edmonson, Bohmer and Pisano, 2001; Feldman, 2003). How is it possible to explain these apparent contradictions? In the next paragraph, we try to reconcile these contrasting perspectives of routines by analyzing the evolution in the

literature of the concept of routine, which has evolved a lot in recent times, leading to a better alignment between theory and reality.

2.1. Routines between stability and change

While the term routine has been in circulation for decades, it has been remarkably difficult to conceptualize in a rigorous way (e.g., Cohen et al., 1996; Cohen and Bacdayan, 1994; Narduzzo, Rocco and Warglien, 2000). Given their importance and prominence in describing organizational action, many scholars have theorized about the nature of organizational routines.

Three dominant metaphors can be drawn from this extensive and diverse literature (Feldman and Pentland, 2003). First, organizational routines have been compared to individual habits (Stene, 1940; Simon, 1945; Nelson and Winter, 1982). From this perspective, routines are conceived as actions that individuals, teams, and organizations take in response to recurring questions, without consciously considering alternatives (Gersick and Hackman, 1990). Routines, like habits, require no thought and are automatic. Second, routines have been likened to computer programs, heuristics, or scripts (March and Simon, 1958; Cyert and March, 1963; Allison, 1971; Gioia and Poole, 1984; Carley, 1996; Levitt et al., 1999). Standard operating procedures represent the archetypal example (Feldman and Pentland, 2003). According to this metaphor, routines may require more processing than habits because they may involve choices, branches, or decision points (March and Simon, 1958). However, they do not require any deliberate search, as all of the major decisions are made in advance. The third metaphor originates in the work of Nelson and Winter (1982), who likened organizational routines to genetic material. In evolutionary theory, these routines play the role that genes play in biological evolutionary theory: "They are a persistent feature of the organism and determine its possible behavior (though actual behavior is determined also by the environment) . . ." (Nelson and Winter, 1982: 14). According to this perspective, routines store information and represent an accretion of rules and practices that have been used to deal with uncertain and complex situations (Nelson and Winter 1982).

A common thread throughout these metaphors (habits, programs, and genes) is the view of routines as repetitive, recurring patterns of behavior of multiple interdependent

actors involved in performing organizational tasks (Feldman and Pentland, 2003; Feldman and Rafaeli, 2002; Gersick and Hackman, 1990). Further, in all three metaphors we have an image of routines as relatively fixed and unchanging objects (Feldman and Pentland, 2003). As a result, these metaphors highlight the inertial qualities of routines and tend to minimize the possibility of flexibility and change.

According to this view, the organizational literature has traditionally tended to explain the origin of routines by the need to save time and energy, precisely because they function automatically, until and unless some new event occurs. In particular, some authors explain the prevalence of routines by the need for cognitive efficiency and the reduction of complexity (March and Simon, 1958; Simon, 1981; Cohen and Bacdayan, 1994; Cohen et al., 1996). Routines can be seen as one product of organizational learning, which promotes reduced variability, standardization, and the avoidance of failure (Argote, 1999; March, 1991). According to this view, routines play the role of memory, and they are conceptualized as a way to store knowledge (Levitt and March, 1988; Huber, 1991). Other authors argue that routines foster the perceived legitimacy of organizations as institutions (Meyer and Rowan, 1977; Feldman and March, 1981) because their behavior conforms to established norms. All these explanations suggest that routines arise because they are functional: They minimize cost and increase managerial control, while maximizing the legitimacy of the organization.

Routines have also been analyzed from the perspective of conflict and power. For example, Nelson and Winter's (1982) analogy of "routines as truce" suggested that routines are means to avoid procedural warfare. Organizational participants may agree to disagree and move on in order to get the work done. The routine, as an agreement about how to do the work, reduces conflict. Routinization can also be seen as a means to impose managerial control over the labor force (Braverman, 1974). In this view, conflict is not necessarily reduced but is suppressed. Organizational routines are also theorized to be a natural product of action that occurs in the context of the enabling and constraining structures that are typical of modern organizations (Barley, 1986; Feldman, 1989; Pentland and Rueter, 1994; Orlikowski, 2000). The organizational context makes some actions easier, and therefore more likely, and other actions harder, and therefore less likely. Repetitive patterns of action will tend to emerge as organizational members choose to take the easier actions and avoid the harder ones. From a psychological

viewpoint, Giddens (1984) has suggested that the routinization of daily life helps to foster a sense of ontological security. Novelty can lead to anxiety and loss of security. Unlike the functionalist explanations of cognitive efficiency and legitimation, these structuration explanations do not imply that the patterns of action we observe are necessarily efficient or legitimate. They are just patterns. The structuration perspective also suggests that by performing these patterns of action, members tend to reinforce and reproduce the underlying structures.

Consistently to these traditional ways of depicting, routines have been conceptualized as sources of stability (Feldman and Pentland, 2003). Many researchers have emphasized their role in organizational inertia (Nelson and Winter, 1982; Baum and Singh, 1994; Aldrich, 1999), with some notable negative consequences. For example, at the individual level, the effects of routine performance include mindlessness and consequent inattention to changes in the task environment (Langer 1986, Ashforth and Fried 1988, Cohen and Bacdayan 1994). At the organizational or team level, the effects include inappropriate use of routines in situations that warrant reflexivity, and possibly heightened commitment to routines in novel or threatening situations where the best outcomes would be obtained by abandoning or altering a routine (Staw, Sandelands and Dutton, 1981; Gersick and Hackman 1990; Louis and Sutton 1991; Ashmos, Duchon and McDaniel, 1998; Wiss and Ilgen, 1985). In particular, there are two major ways in which reliance on routines may be dysfunctional to team performance (Gersick and Hackman, 1990). First, because team members can miscode performance situations, especially changing situations. If a team fails to recognize a novel situation, or fails to see changes in a familiar situation, it risks executing well-known, habitual routines even when they are no longer appropriate. Second, reliance on routines may reduce "the likelihood of innovative performance processes" (Gersick and Hackman, 1990: 72), contributing to the stagnation of the group, and increasing the likelihood of error (Reason, 1984). Consider, for example, the case of civilian-clothed Soviet troops arriving secretly in Cuba who nonetheless formed into ranks on the dock and marched conspicuously away (Allison, 1971). Or again, consider the Air Florida tragedy of January 1982 when, accustomed to uniformly warm weather, an Air Florida pilot automatically responded in the affirmative to his team member's routine question, "Anti-ice off?" despite the heavy snowfall at Washington, D.C.'s National Airport

during the takeoff. Tragically, this inappropriate adherence to routine led the flight's crashing into a bridge over the Potomac River, killing 74 crew members and passengers (Gersick and Hackman, 1990). The Air Florida tragedy is an extreme example, but it does illustrate how powerfully a team can be governed by its routines, and how critical they can be for team performance (Gersick and Hackman, 1990).

Indeed, traditional organizational literature acknowledges that routines can change, but classical models suggest that routines can change slowly, through evolutionary processes (Cohen and Bacdayan, 1994; Cyert and March, 1963; Nelson and Winter, 1982). Experience with well-known routines, in fact, inhibits active seeking of alternatives, and only exceptional mismatches between current routines and environmental conditions can provoke change (Levitt and March, 1988). In other words, routines are generally characterized as decisions that were made in the past that do not have to be reconsidered unless circumstances change (Weiss and Ilgen, 1985; Ashforth and Fried, 1988; Cohen et al., 1996). Consistently, changes are taken as exceptions rather than inherent to the performance of routines, and the focus remains on the repeated action sequences, not on the situated actions that are actually performed, or the actors performing them (Howard-Greenville, 2005). Traditional theories, in fact, emphasize structure, and severely limit the role of human agency (Feldman and Pentland, 2003).

In contrast to such traditional view of routines, however, recent work suggests that many organizational routines are not enacted habitually and with little discretion on the part of actors (Feldman, 2000; Feldman and Pentland, 2003; Howard-Greenville, 2005). According to this recent perspective, organizational routines are perceived as certainly repetitive, but not necessarily fixed or unchanging (Feldman and Pentland, 2003). The premise of traditional view, in fact, is contradicted by observational data: Many scholars have provided empirical evidence of both change and variability in organizational routines (e.g., Pentland and Rueter, 1994; Feldman, 2000; Naduzzo, Rocco, and Warglien, 2000; Edmondson, Bohmer, and Pisano, 2001). Thus, despite organizational routines are commonly perceived as reenacting the past, the performance of routines can also involve adapting to contexts that require either idiosyncratic or ongoing changes and reflecting on the meaning of actions for future realities (Feldman and Pentland, 2003). As a result, organizational routines can still be defined as repetitive, recognizable

patterns of interdependent actions, but they cannot be understood as static, unchanging objects, as they are inherently capable of endogenous change (Feldman and Pentland, 2003; Howard-Greenville, 2005; Pentland and Feldman, 2005).

In order to better understand the nature of routines, Feldman and Pentland (2003) introduces the distinction between the ostensive and performative aspect. The former is the “ideal or schematic form of a routine” (Feldman and Pentland 2003: 101). In other words, it is the abstract, generalized idea of the routine, or the routine in principle. The performative aspect consists of specific actions taken by specific people, in specific places and times when they are engaged in a routine (Feldman and Pentland, 2003). It is the routine in practice. Both of these aspects are necessary for an organizational routine to exist (Pentland and Feldman, 2005).

In particular, the ostensive aspect acts as a guide for what actions should be taken in performing a routine, and can also account for actions already taken. Participants use it to guide, account for and refer to specific performances of the routine (Pentland and Feldman, 2005). The ostensive aspect of the routine is not a single, unified object, because the ostensive incorporates the subjective understandings of diverse participants (Feldman and Pentland 2003). Organizational routines, in fact, are collective phenomena as they involve the coordination of multiple participants (Stene, 1940; Feldman and Rafaeli, 2002; Gersick and Hackman, 1990; Nelson and Winter, 1982; March and Simon, 1958; Cohen et al., 1996). The involvement of multiple individuals introduces diversity in the information and interpretive schemes of the participants. It is very unlikely, in fact, that everyone can know everything; thus, each participant’s understanding of a routine depends on his or her role and point of view. As a result, their subjective interpretations of the appropriate course of action could differ (Feldman and Pentland 2003). The ostensive aspect of the routine gains in apparent objectivity as the views of different participants come into alignment; but it is still only a partial picture because it does not include the performances. The ostensive aspect of the routine, in fact, cannot “encompass specific performances because it is impossible to specify any routine in sufficient detail that it could actually be carried out” (Feldman and Pentland 2003: 101). There are always some contextual details that remain open for the routine to be carried out. In this sense, as it happens for rules (Zimmerman, 1970; Giddens, 1984;

Taylor, 1993), the ostensive aspect of a routine does not fully determine action, and its full significance becomes apparent only in its performance.

The performative aspect of a routine consists, as we said before, of specific actions taken by specific people at specific times when they are engaged in an organizational routine. Feldman and Pentland (2003) argue that unreflective, habitual action is certainly possible, but even in highly constrained situations, participants engage in reflective self-monitoring in order to see what they are doing. In fact, routine participants may introduce variations, even in work settings with detailed descriptions of the expected sequence of steps in a procedure (Victor, Boynton, and Stephens-Jahng, 2000; Narduzzo, Rocco, and Warglien, 2000). Though their choices of how to proceed appear automatic or mindless at times, they interpret their actions in order to make sense of what they are doing. Performing organizational routines, thus, can include an improvisational element (Feldman, 2000; Hutchins, 1991; Orlikowsky, 2000; Pentland and Feldman, 2005; Pentland and Rueter, 1994). As noted by Feldman and Pentland (2003), such improvisatory nature can be better understood considering musical improvisation as an example. In musical improvisation, the degree of divergence from the score may vary considerably, from minor adjustments to cadence and dynamics to near total re-invention; and players need to listen to what others are playing in order to adapt their performance properly (Weick, 1998). The same could happen in performing organizational routines, in which there is a certain degree of improvisation that involves attending to the actions taken by relevant others and the details of the situation (Moorman and Miner, 1998a, 1998b; Feldman and Rafaeli, 2002). The actions taken by participants in a routine, in fact, are interdependent, and, thus, like in the case of music players, participants in an organizational routine must adjust to each other's actions (Feldman and Rafaeli, 2002). Because of this interdependence, participants cannot just act as they please, because the actions of others can create or close off alternatives. Therefore, while organizational routines are clearly repetitive, their intrinsic features (involvement of multiple actors, interdependence, diversity of information and interpretations) ensure that they cannot simply be automatically repeated (Feldman and Pentland 2003).

According to this perspective, thus, "the ostensive aspect of the routine is the idea; the performative aspect, the enactment" (Feldman and Pentland, 2003: 102). Both

aspects are necessary to understand routines. Without making this distinction, the parts (either the ostensive or the performative) can be mistaken for the whole. For example, overestimating the importance of the ostensive leads managers to underestimate the importance of the adjustments and improvisations that people undertake to make the routine work (Feldman and Pentland, 2003).

These two aspects are closely related to the concepts of structure and agency, as found in structuration theory (Emirbayers and Mische, 1998; Giddens, 1984), and understanding their relationship can help us understand the role of variation in organizational routines and the interplay between variability and stability. According to structuration theory, in fact, structure is produced and reproduced through the actions taken by agents, and the actions taken are constrained and enabled by structure (Giddens, 1984). Adopting this perspective, Feldman and Pentland (2003) argue that we can view the ostensive and performative aspects as recursively related, with the performances creating and recreating the ostensive aspect and the ostensive aspect constraining and enabling the performances. This recursive relationship is essential for the ongoing accomplishment of the routine, and could generate a new understanding of routines as emergent structures (Howard-Greenville, 2005). In other words, people can use the ostensive aspect of routines prospectively, as a guide to what actions ought to be taken, or retrospectively, as a guide to accounting for actions already taken. Conversely, the performative aspect of routines recreates, maintains, and may modify the ostensive aspect of the routine "in much the same way that speaking creates, maintains, and alters a language" (Feldman and Pentland, 2003: 107).

Performing an organizational routine, on one hand, allows to maintain the ostensive aspect of the routine by exercising the capability to enact it. On the other hand, when people enact routines, they can also choose to deviate from the ostensive aspect of the routine. When people do new things, whether in response to external changes or in response to reflexive self-monitoring, they alter the potential repertoire of activities that creates and recreates the ostensive aspect of the routine (Feldman and Pentland, 2003; Pentland and Feldman, 2005). Variations may be hidden or otherwise go unnoticed. They may or may not get accepted as legitimate alternatives to existing practice. In other words, a model of variation and selective retention (Campbell, 1965; Hannan and Freeman, 1983; Aldrich, 1999; Baum and Singh, 1994) could apply (Feldman and

Pentland 2003). Specifically, routine performances may generate variations that are selectively retained in the ostensive aspect of the routine.

Recognizing the dual nature of organizational routines allows researchers to consider the potential for endogenous change in organizational routines themselves (Feldman and Pentland, 2003). While traditionally change of routines has been conceived as driven by exogenous forces such as market changes or new technologies (e.g. Tushman and Romanelli, 1985; Barley, 1986, 1990), several recent authors (Feldman, 2000; Feldman and Pentland, 2003; Howard-Greenville, 2005; Pentland and Feldman, 2005) argue that change could come from within organizational routines as a result of engagement in the routine itself. Endogenous change in routines is possible because of their agentic quality (Emirbayers and Mische, 1998). People combine elements of past repertoires of a particular routine or actions from other sources to deal with present situations, with a view to how this particular combination affects future understandings of what the routine is. This movement between performative and ostensive provides many opportunities for people to produce variations on a routine, to select these variations, and to retain them as what it means to do this particular routine (Feldman, 2000; Feldman and Pentland, 2003; Pentland and Feldman, 2005). Some variations could be intentional, in the sense that the participants want to change the ostensive aspect of the routine in order to alter the way they do their jobs (Feldman, 2000). Other variations could be unintentional (Aldrich, 1999). From among the variations that are produced both intentionally and unintentionally, people interpret some as the ostensive aspect of the routine. Through this selection of variations, the ostensive aspect of the routine is created, maintained, and modified.

This new perspective, however, does not imply that routines are necessarily functionally adaptive, as sometimes they display great inertia (Feldman and Pentland 2003). This perspective suggests that routine performances may be flexible, and that sometimes they may produce change over time in the ostensive aspect. Routines are continuously emerging systems with internal structures and dynamics (Pentland and Feldman, 2005). The internal structure of a routine "may produce a wide range of different outcomes on the continuum between 'very stable' and 'constantly changing', depending on circumstances" (Pentland and Feldman, 2005: 795). Such considerations can explain why routines can be used successfully also in dynamic environments. For

example, some research has shown that highly routinized organizations, like automobile manufacturing plants, can respond flexibly to changes (Adler et al. 1999); and others operating in turbulent, hypercompetitive environments, like telecommunications and electronics, still develop shared routines or cognitive frameworks that guide action (Bogner and Barr, 2000).

However, while we know a great deal about a wide variety of routines in a wide variety of organizational settings (e.g. Gersick and Hackman 1990, Adler et al. 1999, Narduzzo et al. 2000, Edmondson et al. 2001), we know much less about how the people enacting a routine and the context in which it is enacted influence both a routine's use at a given point in time and its change or persistence over time (Howard-Greenville, 2005). For example, Howard-Greenville (2005) suggests that the degree to which a routine is embedded in other organizational structures may influence how flexibly it is used, and will likely shape the ongoing consequences of its flexible use. A strongly embedded routine, one that overlaps with many other coordination and cultural structures, "whose overlap is significant in the sense that a change in the enactment of one type of structure would be consequential for the others", may be quite difficult to change over time (Howard-Greenville, 2005: 632). Conversely, flexible performances of a weakly embedded routine (one that does not overlap with many or any other structures) are more likely to lead to a change in the routine over time. This distinction is consistent to Gersick and Hackman's idea (1990) to distinguish between routines that are central versus peripheral to a team's work (i.e. the steps taken by an aircraft crew to prepare for landing is among the former, while a routine shaping where uniform hats are removed are hung in the cockpit is among the latter). The more peripheral a group's routine, they argue, the easier it is to change over time (Gersick and Hackman 1990). In the language of embeddedness, the pattern of actions that involve hanging hats in the cockpit may invoke few, if any, other structures, and the consequences of a departure from the norm would have little impact on these other structures (Howard-Greenville, 2005).

Another factor affecting routine flexibility could be individuals' orientations: Actors may be primarily oriented to the past, present, or future in any routine performance, and may choose, respectively, to iterate on earlier performances, to apply elements of earlier performances pragmatically, or to project elements of earlier

performances to plan for or imagine future enactments of the routine (Howard-Greenville, 2005). The various combinations of embeddedness and agency can help to explain the wide variety of routines we see addressed in the literature, from routines that appear as habitually enacted and resistant to change over time even in the face of new conditions (Gersick and Hackman 1990, Edmondson et al. 2001) to those that are both flexible and broadly adjustable over time (Pentland and Feldman, 2005; Zollo and Winter, 2002).

As routines consist of patterns of interdependent actions and are carried out by multiple actors, the connections that routines make between individuals could constitute one of the mechanisms that allow routines to contribute both to change and stability (Feldman and Rafaeli, 2002). Connections are interpersonal interactions between people that enable them to transfer information, and enhance the sense of mutual understanding, though not necessarily producing agreement among those connected (Feldman and Rafaeli, 2002). Connections, in fact, are formed as people engage together in organizational routines, and are important for developing understandings about both what needs to be done in a specific instance of performing a routine and about the goals of the organization that routines presumably help accomplish (Feldman and Rafaeli, 2002). Connections are made among individuals responding for multiple elements composing a routine. Information is exchanged at each connection, and based on this information exchange individuals learn about other members task and perception of the routine. Connections, thus, are similar to a tie in the network theory, which enables the exchange of information and enables a certain degree of reliability of the behavior of partners to the tie (Monge and Contractor, 1999).

There are two levels of such understanding that routines are likely to develop through connections (Feldman and Rafaeli, 2002). One level is about what actions are helpful in a particular instance of routine performance, and the second level is about the larger organizational context in which the routine is performed. The former regards an understanding about what actions have to be done in performing the routine. The latter includes ideas about what the organization does and why (Bourdieu, 1990; Lave and Wagner, 1991), and regards understandings about why the routine is being performed or the purpose of the routine (Feldman and Rafaeli, 2002). In other words, the former regards the performative aspect of a routine, the latter the ostensive aspect.

The shared understandings developed at both levels allow the individuals involved in a routine to discuss the tasks involved, the range of actions perceived as appropriate, and to coordinate their behaviour with one other (Feldman and Rafaeli, 2002). As we have seen before, in fact, people involved in a routine may have different understandings of what needs to be done and how (Feldman and Pentland 2003). Connections provide an opportunity to come to explore different interpretations and to come to a common understanding (Feldman and Rafaeli, 2002). In this way, through connections people involved in a routine can develop shared understandings about what has to be done and why. This can lead to routine stability: The views of different participants about what and why certain actions have to be done could come into alignment, and people involved in a routine decide to enact the routine. In this case, differently from traditional perspective, stability is "based on mindfulness rather than mindlessness" (Feldman, 2003: 727). Stability occurs because individuals are making conscious efforts to understand what actions are appropriate in performing a routine (Feldman, 2003). In the same way, through connections individuals involved in a routine could develop shared understandings which lead to change. While enacting a routine, people can choose, whether in response to external changes or in response to reflexive self-monitoring, to deviate from actions perceived as appropriate, altering the way they perform the routine (Feldman and Pentland 2003; Feldman and Rafaeli, 2002).

Such change may require people involved to communicate and coordinate properly (Edmondson et al. 2001), and may involve a collective learning process where people have to learn about others' roles (Levine and Moreland, 1999) and make proper cognitive, and interpersonal adjustments that allow new routines to become ongoing practice (Edmondson et al. 2001). As noted by Edmondson and colleagues (2001), team stability can affect this process, as it could affect the kind of connections developed between individuals involved in a routine. Keeping team members together, in fact, could enable learning because it develops transactive memory systems, in which members understand one other's capabilities and can more easily coordinate their actions (Levine and Moreland, 1999, Moreland and Myaskowsky, 2000). Team members interacting over a long period of time, thus, will be able to develop standard work patterns that are familiar and comfortable, which lead to synchronicity and a better execution of the required tasks (Berman, Down and Hill, 2002; Weick and Roberts,

1993). Further, as we have seen before, such stable and repeated patterns of connections allow individuals to come to shared understanding, which could lead also to change in routines and adaptability to variations in internal and external environment (Feldman and Rafaeli, 2002).

However, over time, stable teams may become slaves to routine and fail to respond to changing conditions (Edmonson et al., 2001). Team members, who have been performing their jobs together for an extended time, may develop a stable alignment of different participants' views about what and why certain actions have to be done. Such shared understanding may lead team members to repeat a routine over time, but enacting the same routines over time may make individuals more and more confident on their customary ways of doing things, and, thus, less likely to change them, even when the best outcomes would be obtained by abandoning or altering a routine (Gersick and Hackman, 1990). With increasing team stability, team members could gradually become more committed to their shared understandings, and less receptive toward new ideas and information that threaten to disrupt significantly their comfortable and predictable work practices and patterns of behavior (Katz, 1982). In other words, a sort of shared understanding ossification process occurs: Individuals within the team may become more and more committed to their shared understandings and, thus, unable to adopt new modes of behavior. It is difficult, in fact, to bring about change in routines when the change is inconsistent with shared understandings about what actions will be taken in performing a routine and about the purpose of the routine (Feldman, 2003). Team stability, thus, may limit the team's ability to break with the past patterns, and be ultimately detrimental to team performance (Bantel and Jackson, 1989; Berman et al., 2002; Hansen, 1999; Katz, 1982).

One possible way to avoid such negative consequences of team stability is changing the set of people who perform the tasks associated with it. Shaking up teams, by moving people off a team or bringing new people on it could have some positive consequences. Team members changes, for example, could stimulate critical thinking about team practices, as new team members can bring with them new mental models and different ways of thinking, that could be determinant in expanding teams' perspectives (Grunfeld and Fan, 1999; Klimosky and Mohammed, 1994; Levine and Moreland 1999; Louis and Sutton, 1991). Accordingly, both organizations and teams

often experience some degrees of personnel turnover in order to gain, for example, fine-grained information (Boeker 1997, Kraatz and Moore 2002), new knowledge (Argote and Ingram, 2000; Gruenfeld, Martorana and Fan, 2000; Madsen, Mosakowsky and Zaheer, 2003), new skills and abilities (Jaw, Wang and Chen, 2006; Wright and Snell, 1991).

In last decades, organizations have fostered the use of the HR practice of recruiting talent from competitors, since the human element has grown in importance (e.g. Pfeffer, 1994; Wright, McMahan and McWilliams, 1994) and the effective management of human capital has been addressed as the ultimate determinant of organizational performance (Adler, 1988; Hitt, Bierman, Shimizu and Kochhar, 2001; Youndt, Snell, Dean and Lepak, 1996). Knowledge, in fact, has been increasingly regarded as one of the most critical and valuable intangible resources for organizational performance (e.g. Barney, 1991, Grant, 1996; Kogut and Zander, 1993; Nelson and Winter, 1982), and much of an organization's knowledge is embedded in its individual members (Argote and Ingram, 2000). Organizations, thus, may create value through selection, development and use of human capital (Lepak and Snell, 1999). In doing so, they have to make adequate investments in their human capital to ensure that the employees have the required skills (Wright and Snell, 1991). Pfeffer (1994), in particular, has made the case that firms wishing to succeed in today's global business environment must make appropriate HR investments to acquire and build employees who possess better skills and capabilities than their competitors. In order to achieve this goal, organizations could import knowledge, skills, or abilities from their external environment by acquiring personnel from competitors (Kim, 1997; King, Burke and Pemberton, 2005; Lepak and Snell, 1999; Rao and Drazin, 2002; Wright and Snell, 1991).

When individuals move across organizations, in fact, they transport knowledge and skills that can be effectively transferred to the recipient organization (Aldrich and Pfeffer, 1976; Argote and Ingram, 2000; Madsen et al., 2003). Such exchanges span organizational boundaries and link otherwise disconnected individuals providing hence a recipient organization with access to knowledge that is novel or different (Gruenfeld et al. 2000). Individuals mobility across organization, thus, is crucial to organizational knowledge production and development as it enables individuals to make novel associations between their existing knowledge stock and knowledge brought into the

organization (Cohen and Levinthal, 1990; Madsen et al., 2003). Several researches advocate that personnel rotation facilitates knowledge transfer also at team level (e.g., Ancona and Caldwell, 1998; Finkelstein, 1992; Hambrick and Mason, 1984; Gruenfeld et al., 2000). Further, personnel mobility is an important mechanism by which organizations could gain access to new information (Baker, 1994; Granovetter, 1974), and could learn from competitors adopting their innovations (Boeker, 1997; Di Maggio and Povell, 1983; Kraatz and Moore, 2002). Immigrant personnel also import new and very different conceptions of what is natural, reasonable or inevitable, thus exposing recipient organizations to alternative ways of organizing and trigger changes in their behaviors (Abrahamson and Fombru, 1994; Boeker, 1997). For example, Kraatz and Moore (2002) found that colleges were more likely to introduce professional programs when they were led by presidents who had recently migrated from colleges that already had professional programs. Effects of personnel mobility have been investigated at executive, managerial, and technical level (see Rao and Drazin, 2002 for a review).

However, it is not only the fact of recruitment itself that could enhance organizational and team performance, but also recruits' characteristics. For example, some studies on top management teams suggest that recruits with prior expertise are more likely to influence new product development in their domains (Eisenhardt and Schoonhoven, 1990; Finkelstein, 1992; Hambrick & Mason, 1984). Similarly, other researchers argue that executives recruited from recently high performing rivals are highly competent, and are likely both to have greater skills and to hasten product innovation (Kraatz and Moore, 2002; Rao and Drazin, 2002). Thus, as having people who have better skills and capabilities than competitors is the key resource for organizations competing successfully in today's global business environment, organizations engage in head-to-head competition for more skilled and capable human capital (Gardner, 2005). In addition, the current condition of low unemployment, economic growth, and increased competition in the product-markets have forced organizations to hire more experience and skilled employees from rivals, fostering, in turn, the labor market competition (Cappelli, 1999). This has led to the widespread idea that we are in a "war for talent" (Pfeffer, 2001). In an intellectual capital world, talent is what matters, and organizations believe that the companies that will win in the

competitive arena are those that are the best at locating, assessing, recruiting, and keeping the most talented people.

However, personnel turnover and hiring most talented people from competitors is not always associated with an increase in performance (Groysberg, Nanda and Nohria, 2004; Pfeffer, 2001). In fact, several previous studies have highlighted how it is particularly important facilitating newcomer effectiveness in teams as integrating newcomers could be quite difficult (Chen and Klimoski, 2003; Chen, 2005; Morrison, 2002). For example, team-mates and team leader may have shared expectations that a newcomer will perform effectively in the various role domains in their team. If such expectations are not matched, they will to be more likely to be disappointed by low or modest initial levels of newcomer performance, thus creating frictions within the team (Chen, 2005). Another problem could be related to the fact that team members tend to develop special languages that are difficult for people outside of that team to understand (Fine, 1996; Fulk, 1993; Levine and Moreland, 1991). These languages can have both verbal and nonverbal components; team members not only use jargon to signify different aspects of their work, but they may also find special meaning in gestures, voice tones, and even silences (Moreland and Myaskovsky, 2000). People who speak such languages can thus work together more efficiently than those who do not. A problem encountered by many newcomers, thus, is learning how to make sense of what the other group members are saying and how to speak in ways that reflect an understanding and acceptance of the team's unique culture (Levine and Moreland, 1991; Moreland and Myaskovsky, 2000). While most organizations realize the importance of integrating new employees, many fail in this regard often because they on certain taken-for-granted practices (i.e. the best newcomers can fend for themselves, cursory introductions are all that's needed) that can actually hinder new employees from becoming productive (Rollag, Parise and Cross, 2005).

One way to solve this problem would be to change the team by introducing in it individuals who have already have worked with people who are currently (and will stay) in it. These latter team members would then operate to help transition the newcomer to her new role, hence allowing her to deploy her knowledge and skills to the new organization and helping her understand the content (and rationale) of the set of routines that she is expected to perform. Empirical research, in fact, has highlighted the

importance of social interactions between newcomers and insiders for helping newcomers to acquire information and 'learn the ropes' (Morrison, 1993, 2002; Ostroff and Kozlowsky, 1992). As noted by Szulansky (2000), the effectiveness of the exchanges of information between the recipient and the source of knowledge depends on the strength of tie between them, which is reflected in the ease of communication and in the "intimacy" of such relationship. Therefore, teams with a higher level of such relational patterns, that derive from past common work experiences and that we call relational intensity, are more likely to minimize the problems usually associated with the introduction of new organizational members.

In this way, this research differs also from previous studies, which have analyzed this issue focusing on the kind of ties existing among groups' members and sharing the implicit assumption that a stable team is characterized by the presence of strong ties among its members, while a team whose members change often is characterized by weak ties (e.g. Berman et al., 2002; Katz, 1982). In this research, we claim that strong ties are not the prerogative of only long lasting teams: We could have strong ties among members of newly re-shaped teams that derive from them having worked together extensively in the past. Thus, our aim is to analyze the effects on team performance of both team stability (network stability) and relational intensity. In doing so, we will use two different theoretical perspectives: Human capital to take into account individual team members characteristics (i.e. knowledge, expertise) and social capital (to take into account the role of relational patterns developed among team members).

2.2. Human capital perspective

The human capital literature has examined returns to skill investments by employers and workers, focusing on the relationship between such human capital investments and their return in the form of earnings for the worker, or marginal product for the employer (Becker, 1962, 1975; King, Burke and Pemberton, 2005). The basic idea of this perspective is that people possess skills, knowledge, and abilities that provide economic value to both individuals and organizations (Youndt et al., 1996). From the individual viewpoint, human capital theory suggests that individuals make investments in their own productive skills through education, general experience in the labor market, and specific experiences with current employers in order to provide

signals of capability (King et al., 2005; Spence, 1974; Tomaskovic-Devey, Thomas and Johnson, 2005). Accumulated human capital (either generic or specific to occupation and task) is expected to increase not only wages but also probability of selection for employment (Bielby and Bielby, 1999). Individuals with more human capital, in fact, are conceptualized to be more attractive employees because their skills can be deployed to gain superior performance (Becker, 1975; Youndt et al., 1996). This might happen directly, because highly skilled people are more effective in their use of tools or communication skills and can accomplish more complex tasks. It can also occur indirectly, because people with more experience and education learn new skills more easily (Tomaskovic-Devey et al., 2005).

As a result, from an organizational viewpoint, performance differences across organizations can be attributed to the variance in their human capital (Hitt, Bierman, Shimizu and Kochhar, 2001; Snell, 1992; Wright and Snell, 1991). Many researchers, in fact, have stressed the idea that human capital is critical to teams and organizations, as the success of a team or an organization depends on its resources and capabilities (Ashworth and Carley, 2006; Hitt et al., 2001; Jaw et al., 2005; Ulrich and Lake, 1990; Wernerfelt, 1984). In particular, resources that are valuable, unique and difficult to imitate can provide the basis for organizations' competitive advantage (Amit and Schoemaker, 1993; Barney, 1991). Organizations, thus, employ many different valuable resources that are both tangible (i.e. physical infrastructures and financial resources) and intangible (i.e. human capital and brand equity) in the development and implementation of their strategies. In particular, intangible resources are more likely to play a more critical role in improving performance as they are often rare and socially complex, thereby making them difficult to imitate (Black and Boal, 1994; Hitt et al., 2001; Peteraf, 1993; Rao, 1994). Many researchers have recently focused their attention on the role of internal intangible resources, and in particular on the role of knowledge as the most critical and valuable intangible resource for organizational performance (Grant, 1996; Kogut and Zander, 1993; Nelson and Winter, 1982). Many recent studies, in fact, have focused on the role of knowledge in technological innovation and organizational learning (Nonaka and Takeuchi, 1995; Spender, 1996), and its relevance for sustaining firms' competitiveness (Kogut and Zander, 1993; Lippman and Rumelt, 1982; Teece and Pisano, 1998). As much of an organization's knowledge is embedded in its

individual members (Argote and Ingram, 2000; Hitt et al., 2001; Madsen et al., 2003), there has been a progressively greater emphasis on the role that an organization's human capital could have in developing and maintaining its performance (Barney, 1991; Pfeffer, 1994, 1998; Wright, Smart and McMahan, 1995; Youndt et al., 1996). Organizations and teams, in fact, can enhance their performance through their human capital, which consists of their members' acquired knowledge, skills and abilities (Ashworth and Carley, 2006; Becker, 1975; Huselid, Jackson and Schuler, 1997; Pennings et al., 1998).

The message that people matter is not new at all, as already Thompson, in his classic book *Organizations in Action* (1967), described how the human variable could affect organizational actions. However, numerous researchers have recently noted that people may be the ultimate determinant of organizational performance since traditional sources of competitive advantage related to markets, financial capital, and scale economics have been weakened by globalization and other environmental changes (e.g. Pennings, Lee and Van Witteloostuijn, 1998; Reich, 1991; Ulrich and Lake, 1990; Youndt et al., 1996). Pfeffer (1994), for example, argued that firms wishing to succeed in today's global business environment must develop an appropriate human capital with better skills and capabilities than their competitors. In last decades, consistently to this strong focus on the relevance of the human element, organizations have fostered their attention on the development of appropriate HR architecture in order recruit, select, develop and retain individuals who possess those skills and competencies that could contribute to increase organizational performance (Huselid, Jackson and Schuler, 1997; Lepak and Snell, 1999; Youndt et al., 1996; Wright et al., 1994).

In order to achieve this goal, organizations could import knowledge, skills, or abilities from their external environment by acquiring personnel from competitors (Kim, 1997; King et al., 2005; Lepak and Snell, 1999; Rao and Drazin, 2002; Wright and Snell, 1991). When individuals move across organizations, in fact, they transport knowledge and skills that can be effectively transferred to the recipient organization (Aldrich and Pfeffer, 1976; Argote and Ingram, 2000; Madsen et al., 2003). Several researches advocate that personnel rotation facilitates knowledge transfer also at team level (e.g., Ancona and Caldwell, 1998; Finkelstein, 1992; Hambrick and Mason, 1984; Gruenfeld et al., 2000). Further, in order to enhance their performance teams and organizations pay

great attention to recruits' characteristics as, for example, skills, reputation, and prior expertise (Eisenhardt and Schoonhoven, 1990; Finkelstein, 1992; Hambrick and Mason, 1984; Rao and Drazin, 2002). In particular, experience is perceived as a relevant factor since with practice people can refine and improve their individual skills (Faulkner and Anderson, 1987; Nass, 1994). In fact, experience enhances individual skills, such as, for example, identifying key information, chunking that information into a relational pattern (Prietula and Simon, 1989, Simon 1991) and developing heuristics and rules of thumb for problem solving (Garud and Nayar, 1994). Individuals with greater experience cumulated in an industry, thus, could develop detailed knowledge about how that industry operate and, in this way, perform better than individuals with less experience (Eisenhardt and Schoonhoven, 1990).

From these considerations, we derive our first hypothesis:

*Hypothesis 1: There is a positive relationship between
a team's human capital and its performance*

Therefore, according to human capital theory, teams composed by people who have better skills, better capabilities and greater experience are expected to perform better than competitors. However, hiring most talented people from competitors is not always associated with an increase in performance (Groysberg et al., 2004; Pfeffer, 2001). In fact, while having skilled individuals is important for team performance, some authors argue that also the structure of relationships existing among them could affect team performance (e.g. Ashworth and Carley, 2006; Reagans, Zuckerman and McEvily, 2004). This goes back to the Penrose's idea (1959) that organizations' and team performance may be due not only to the superior resources they have access to, but rather to their making better use of these resources (Penrose, 1959). Team performance, in fact, is not only affected by the quality of its members, but also by their fit and their ability to develop appropriate interactions among them. Hence, it seems to be critical not only considering the individuals' characteristics, but also the connections among these individuals.

2.3. Social capital perspective

As mentioned above, team performance may be due not only to the superior resources it has access to, but rather to its making better use of those resources (Penrose, 1959). In particular, team performance could be affected not only by the characteristics of its members, but also by the structure of relationships existing among them (e.g. Reagans, Zuckerman and McEvily, 2004; Ashworth and Carley, 2006). The patterns of connections among individuals, in fact, can have important implications for teams, because they have the potential to facilitate and constrain the flow of resources between and within teams (Brass, 1984). For this reason, social capital theory could offer a complementary perspective to the human capital one.

According to the social capital perspective, the peculiar network of relationships within an organization or a team constitutes a valuable resource for achieving high performance (e.g. Ashworth and Carley, 2006; Burt, 1992; Brass, 1984; Everett and Borgatti, 1999; Nahapiet and Ghoshal, 1998; Reagans et al., 2004; Reagans and Zuckerman, 2001; Soda, Usai and Zaheer, 2004). This theory suggests that the types and degrees of an individual's relationships in social and communication networks are key impactors of team performance (Ashworth and Carley, 2006). According to this view, in fact, the contributions of individual actors within a team depend fundamentally on the relations between actors as opposed to actors' human capital (Burt, 1992). In this paradigm, the relations themselves are productive resources (Coleman, 1988), and the structural character of actors' social linkages with other actors influence the extent to which they are economic producers (Granovetter, 1985; Lin, 2001). The social capital perspective, therefore, could be helpful in explaining why differential team performance could be due not only to the human capital (i.e. skills) of its members, but also to the particular relationships developed among them. This theory, in fact, argues that social capital may yield exponential performance benefits for organizations (Dess and Shaw, 2001) because better connected individuals or groups can achieve better performances. In other words, people or groups with the 'right' types of connections can more effectively employ other types of capital they possess (such as financial resources, knowledge, skills, and abilities) to achieve their goals than can people or groups with connections of a different type (Oh, Chung and Labianca, 2004). People with the right connections occupy a position in the network of social exchanges that allows them to

bring their resources to bear on problems in a more timely and effective manner (Burt, 2000; Portes, 1998).

However, within the corpus of this theory there are different interpretations for what the terms 'better connected' or 'right connections' mean. These different theoretical positions fall into two main clusters of interpretations. On the one hand, social capital is identified with the brokerage capacity of individuals (Burt, 1992). This capacity refers to the extent to which a person falls between pairs of other persons who have not any direct connection between them (i.e., fill a structural hole). The ability of a third party to cover a structural hole (Burt, 1992) by acting as a bridge between two disconnected individuals allows him/her to obtain informative and competitive advantages. This first form of social capital has been typically associated with the maintenance of weak ties among players (Granovetter, 1974). In other words, it is precisely the existence of weak ties that allows access to different relational networks and, thus, makes it possible to fill the largest number of structural holes. The presence of such weak ties could lead to advantages at both individual and team level. For example, at the individual level, these advantages include outcomes such as finding a job (Granovetter, 1973), getting a promotion (Burt, 1992), and career success generally (Podolny and Barron, 1997). At the team level, the presence of weak ties may generate some information benefits because they represent points of contact into different network clusters, each of which tends to represent a relatively non-redundant concentration of information and resources (Burt, 1992; Reagans et al., 2004). Such boundary-spanning ties provide access to a broader array of ideas and opportunities than do ties that are restricted to a single cluster (Granovetter, 1973). According to this idea, thus, teams whose members have high level of this type of social capital may benefit from getting access to different information, resources, and perspectives. In fact, to the extent a team's members are connected to people working in other projects, teams or organizations in the external network, such team may benefit because its members may be able to better tap diverse ideas and skills, which could enhance the team's capacity for learning and creative problem solving (Bantel and Jackson, 1989; March, 1991; Ancona and Caldwell, 1992; Pelled, Eisenhardt, and Xin, 1999; Reagans and McEvily, 2003, (Soda et al., 2004).

On the other hand, other authors have identified social capital with the presence of network closure within the considered groups (Coleman, 1988, 1990). In this case, the presence of close relational networks, in which all actors are connected to each other, is seen as favoring the development of strong social rules and reciprocal trust. Actors in a dense and highly interconnected network begin to abstain from antisocial and opportunistic behavior, and create shared meanings, understandings, and trust (Coleman, 1988; Granovetter 1985; Krackhardt, 1998; Portes and Sensenbrenner, 1993). The development of such dense networks is typically associated with strong and long-lasting ties that encourage communication among the parties and creation of common and shared languages. Such common mental models help to improve the access to and flow of information (Gnyawali and Madhavan, 2001). From an organizational point of view, an organization characterized by strong ties approaches the model of a clan (Ouchi, 1980) and can, therefore, exploit all of the advantages typically associated with this kind of organization, such as a reduced potential for opportunism and the development of reciprocity (Gouldner, 1960). In team characterized by the presence of strong ties among team members, individuals are more willing to extend favors to one another because they know that the favors will ultimately be returned by another member of the team (e.g., Edmondson, 1999; Kramer, Hanna, Su, and Wei, 2001). In teams, thus, the presence of this type of connections promotes the alignment of individuals' actions with a group's goals and priorities, and develop norms of behavior that are likely to endure over time (Brass, Butterfield and Skaggs, 1998). Some research, in fact, points also to the superior ability of closure to deal with the passage of time showing how closed networks are more enduring and stronger than networks that do not maintain such ties (Krackhardt, 1998; Soda et al., 2004).

In this paper, thus, we want to draw from last reading of social capital theory by focusing on close and long-lasting ties within team members. In particular, we want to test the idea that team performance is not only affected by the quality of its members, but also by the structure of relationships existing among them.

These type of relationships, in fact, can facilitate the creation of routines, common languages and trust, increasing the likelihood of co-operative behaviors with positive effects on team performance (Delmestri, Montanari and Usai, 2005). Thus, network stability (the degree to which team composition does not change over time) allows

members to become more comfortable with a specific set of routines. Repeated practice leads to expertise, and everything else equal, is reflected in a better execution of the set of routines on part of the people who have stayed together for a longer time. In this way, teams establish certain stable structures of interlocked behaviors and relationships, which lead to synchronicity and a better execution of the required tasks. Second, it allows individuals to come to a shared understanding of why certain actions are appropriate, thus also increasing their ability to coordinate and adapt (Feldman and Rafaeli, 2002). In fact, individuals may have different understanding of what needs to be done and how. Connections provide an opportunity to come to explore different interpretations and to come to a shared understanding about what actions will be taken in a specific situation. These shared understandings help teams maintain a pattern of behavior that coordinates the actions of individuals while also adapting to variations in the internal and external environment. In this way, close and long-lasting ties within team members can create a system in which there is more knowledge available than the cumulative knowledge of the individual actors (Weick and Roberts, 1993).

From these considerations, we derive our second hypothesis:

*Hypothesis 2: There is a positive relationship between
team stability and its performance*

Nevertheless, team members, who have been performing their jobs for extended time periods, could come to rely more and more on their customary ways of doing things to complete their task requirements. Thus, with increasing team stability, team members could gradually become more isolated from outside sources of relevant information and new ideas, and less receptive toward communications that threaten to disrupt significantly their comfortable patterns of behavior. In this way, individuals within the team may be unwilling or unable to adopt new modes of behavior, particularly if they involve the unlearning of existing tacit routines, and, thus, team stability may be detrimental to team performance by limiting the team's ability to break with the past patterns, if need arises (Berman, Down and Hill, 2002; Hansen, 1999; Katz, 1980). One way to solve this problem is to change team membership, by moving people off a team or bringing new people. According to social capital perspective, in doing so it is better to consider not only the individual characteristics of potential new

members, but also their ties with people who are currently (and will stay) in the team. Thus, we can talk about strong ties also in this case. Strong ties are not the prerogative of only long lasting teams, but they can exist also among members of newly re-shaped teams, as they derive from them having worked together extensively in the past. Having such kind of ties could help teams to adapt to new conditions and change their routines, hence maintaining their high performance or improving it. In fact, team members who have previously worked with newcomers, could operate to help transition the newcomer to his/her new role, hence minimizing possible frictions in his/her ability to transfer his/her knowledge and skills to the new team and helping him/her understand the content (and rationale) of the set of routines that she is expected to perform. Therefore, networks with a higher level of relational intensity (i.e., the set of shared ties members derive from past common work experiences) are more likely to minimize the loss of tacit knowledge as well as problems in understanding the current set of routines and practices, which are the problems usually associated with the introduction of new members.

From these considerations, we derive our third hypothesis:

*Hypothesis 3: There is a positive relationship between
relational intensity and its performance*

We test our model using longitudinal data on sport teams' membership and their performance focusing on the case of the Italian Basketball Major League (Serie A-1).

CHAPTER 3

DATA AND METHODS

In order to test our hypotheses, we used longitudinal data on sport teams' membership and their performance. We chose to examine sport teams, as they provide an appropriate setting for the investigation of organizational phenomena of interest for management scholars (Berman et al., 2002; Harder, 1992; Wolfe et al., 2005). In fact, a considerable number of studies have investigated organizational phenomena within a sport context⁴. Some examples are represented by organizational loyalty, studied by Adler and Adler (1988) in college basketball teams; the relationship of pay distribution to performance, studied by Bloom (1999) in the Major League Baseball; the effect of managerial succession on organizational performance, investigated by Gamson and Scotch (1964), and Allen, Panian and Lotz (1979) in the Major League Baseball, by Brown (1982) in the National Football League, by Eitzen and Yetman (1972) in college basketball, and by Pfeffer and Davis-Blake (1986) in the National Basketball Association. Other examples of organizational phenomena investigated in sport settings are constituted by the relationship among organizational strategy, human resources, and performance, studied by Wright, Smart and McMahan (1995) in college basketball; the efficiency and incentive properties of organizational reward systems, investigated by Becker and Huselid (1992) in auto racing; and tacit knowledge contribution to sustained competitive advantage, studied by Berman and colleagues (2002) in the National Basketball Association.

There are different reasons for using sport as the research setting for investigating organizational phenomena. A recurring rationale is that there are many similarities between sport teams and organizations in other industries (Berman et al., 2002, Katz, 2001; Keidel, 1984; 1987; Sonnerfeld and Peiperl, 1988). For example, they both strive for performance, have crises, rely on various types of resources (i.e., financial, human, social) to achieve their goals. Other important similarities between sport teams and

⁴ Sport has been used as the context for research in a number of academic fields other than organizational studies. As examples, we find research within psychology (e.g., Bretz and Thomas, 1992; Cialdini et al., 1976; Cialdini and DeNicholas, 1989; Harder, 1991; Lord and Hohenfeld, 1979), labor relations (e.g. Hill and Spellman, 1983, 1984; Kahn and Sherer, 1990), and economics (e.g., Blass, 1992; Kahn and Sherer, 1988; Lehn, 1984; Scully, 1974; Vrooman, 1996; Wallace, 1988).

organizations in other industries include their mutual concern for competing externally, cooperating internally, managing human resources strategically and developing appropriate systems and structures (Keidel, 1984; Wright et al., 1995).

Sport teams, thus, make excellent populations in which to test managerial and organizational theories since they represent a microcosm where scholars can study phenomena which are more difficult to observe in the competitive arena (Berman et al., 2002; Fonti and Castellucci, 2003; Pfeffer and Davis-Blake, 1986; Staw and Hoang, 1995; Wolfe et al., 2005; Wright et al., 1995). For example, it has been argued that the different varieties of team sports can serve as a living laboratory for organizational inquiry as "the world of sports mirrors the world of work... game or play structures parallel work structures... Each of the three major team sports... baseball, football, and basketball, represents a generic organizational model... Baseball is a metaphor for the autonomy of organizational parts, football for hierarchical control over the parts, and basketball, for voluntary cooperation among the parts" (Keidel, 1987: 591-592).

Additionally, from a methodological point of view sports organizations offer the advantage of completeness and objectivity of the data describing their operation and performance (on the court or field, at least). Many relevant variables can be measured with great accuracy in sport as sport leagues tend to be prolific data collectors (Becker and Huselid, 1992; Bloom, 1999; Staw and Hoang, 1995). As noted by Goff and Tollison (1990), the availability of data due to the frequency and regularity of athletic events, transparency of changes in strategies and processes, and clarity of outcomes results in unique opportunities to observe, measure, and compare variables and relationships of interest over time. For example, Bloom, in his study on the effects of pay distribution on performance, pointed to unique opportunities to compare variables and relationships over time provided by MLB teams: "I used pay and performance information on 1,644 (MLB) players on 29 teams for the years 1985 through 1993" (Bloom, 1999: 28). Another methodological advantage, is that, as noted by Gamson and Scotch (1964), all teams competing in the same league (football, basketball, baseball, etc.) have identical goals (to win as many games as possible) and a variety of other similar structural characteristics. In addition, sports teams must conform to the same set of rules and an impartial authority is always present to ensure that the rules are followed (Allen et al., 1979; Berman et al., 2002; Wolfe et al., 2005). Thus, testing hypotheses in

relatively controlled field environments is another rationale mentioned by researchers. For example, Berman, Down, and Hill (2002) argued that "All teams in the NBA are governed by standard rules of competition... eliminat(ing) many factors that would otherwise substantially increase the complexity and reduce the power of this study" (p. 20). Staw and Hoang (1995) argued that it is uncertain whether escalation effects found in earlier studies can be generalized because almost all escalation research was laboratory based. They, therefore, used the NBA as the research setting, a setting "devoid of the props, scenarios, and student samples generally used by laboratory researchers" (p. 475). Accordingly to all previous observations, therefore, doing research within sport provides opportunities to observe, accurately measure, and compare variables of interest over time and to test hypotheses in relatively controlled field environments (Goff and Tollison, 1990; Wolfe et al., 2005).

More importantly, given the framing of this paper, each season sport teams aim at improving their previous performance (or at least maintaining it if the previous year they have been successful). In so doing, they have basically to choose between keeping the team stable or changing it by selecting new players, and if so, how much. In other words, is it better to bet on team stability, because the shared experience accumulated over time can construct patterns or schemata which are needed to operate in a synchronous fashion, or to change team composition by selecting new players who can improve team performance? Furthermore, how should be selected new team members? Teams have to look to new players' skills or to other factors, such as for example their fit with existing team members? And what is the influence of pre-existing ties between incoming team members and the rest of the players in the roster? For all these considerations, we believe that sport teams seem to be an appropriate setting to test our model.

In particular, we chose to analyze the case of basketball because, among different professional sports, it is characterized by the highest level of interdependence and coordination (Berman et al, 2002; Keidel, 1984; Katz, 2001). For example, baseball exhibits a low level of interdependence among players, as team member contributions are relatively independent of each other. When interaction does occur, it usually involves no more than two or three players on the same team (i.e. pitcher-catcher, batter-base-runner, infielder-infielder). Further, the geographical dispersion on the field

of the players presents a low level of density, as players are spread across a wide playing area. Such characteristics, thus, make a baseball team a loosely coupled system, in which “the overall team performance approximates the sum of team members’ performances” (Keidel, 1984: 8). In other words, if each player is successful as an individual, the team should win. In football, there is an higher level of interdependence and all the players have a role in executing the game plan (Berman et al., 2002). However, only some players directly coordinate their actions (i.e. the blockers leading a running back). Soccer is characterized by an higher level of interdependence than football, as there is an higher number of players who have to coordinate their actions in executing the game plan. Further, soccer exhibits a lower level of specialization between offense and defense roles, as many players are involved in both offense and defense activities (if offense and defense are linked in football, they are intersecting in soccer).

However, interdependence and coordination are highest in basketball (Berman et al., 2002; Keidel, 1984). The players continually interact on offense, as demonstrated by the back-and-forth flow of the ball among players, who work to get a team-mate open and the ball to him/her. The players coordinate their actions also in defense, as demonstrated for example by double-teaming an offensive player and covering for each other on ‘breakdowns’ and unsuccessful gambles on defense. Further, offense and defense are completely overlapping, as they may turn into each other instantaneously. Finally, the dispersion of players across the playing area is the most dense of all the four sports considered. These characteristics, thus, make a basketball team a tightly coupled system, in which players are coupled to all of their team-mates in a “fluid, unfolding manner” (Keidel, 1984: 9). Usually, all players are involved in every play (offense, defense, and transition); handle the ball; attempt to score, and there is a continuous movement by all, not just the player with the ball.

Organizational work teams tend to resemble one of these sport teams (Crown, 2000; Katz, 2001; Keidel, 1984; Wolfe et al., 2005). A sales team, for example, will likely to be of the baseball type: Each salesperson works largely independently, and the success of the team depends on each individual salesperson performing at her/his peak. An assembly-line manufacturing team is of the football type: As a product moves down the line, it is passed off from one teammate to the next. In this context, each team

member executes a narrowly defined piece of the work. What happens in basketball teams seems to be very close to what happens in tightly coupled teams, whose effectiveness depends on team members' interaction as the work is repeatedly passed back and forth among them (Katz, 2001; Keidel, 1984). Examples could range from think-tank consulting firms, to creative advertising agencies, to computer manufacturers, and to cross-functional teams. In such teams, individuals lack the full knowledge required to perform complex tasks, and they have to coordinate their action and make mutual adjustments in order to perform their task with precision. The flow of information is top-down, bottom-up, and lateral; and the dominant value is cooperation (Katz, 2001).

Basketball, thus, seems to be an appropriate setting to investigate antecedents of team performance, as a basketball team's performance is a function not only of its players' actions but also (and especially) of their interactions. This is a setting in which is highly relevant experientially acquired knowledge of how other team-mates play, and where they are likely to be positioned in a particular situation at a particular time. The cumulative experience shared with other team members seems to be a critical driver for performance. The greater the time that team members spend playing together, the more likely they will develop the individual cognitive schemata required to understand each other's capabilities and to synchronize their individual game play accordingly (Berman et al., 2002). In basketball, thus, team stability could have positive effects on team performance, facilitating the creation of routines, shared norms, common languages and trust within the group. Team members interacting over long period will be able to develop standard work patterns that are familiar and comfortable, and that lead to synchronicity. In this way, such stable patterns allow individuals to come to a shared understanding of why and when certain actions are appropriate, increasing their ability to coordinate and adapt. In other words, playing together makes each team member learn how other team-mates play basketball, allowing her/him to anticipate the actions her/his team-mates will take in the split-second decision making that characterizes a fast break or a switch on defense. In this way, well acquainted team-mates are able to interact in a synchronous manner without eye contact.

Consistent with our earlier arguments, however, basket team performance could be expected to decline beyond a certain level of stability, as some of the routines generated

from shared experience could become apparent to competitors over time. Competitors, in fact, may use observational mechanisms (i.e. game films, scouting reports) to document the tactics of a winning team or they can learn to anticipate the synchronized moves of a team through repeated game play. Thus, teams too stable may not be infused with new talent (that brings with it new techniques), and players will likely be less willing to experiment with new ways of playing. In this way, players will rely more and more on their customary *modus operandi*, but such routines may be increasingly less effective as they become increasingly apparent to competitors, which can learn how to respond appropriately. Therefore, each season basketball teams have basically to choose between keeping stable the team roster and changing it by selecting new players. Furthermore, have teams to select new team members just relying on their technical/tactical skills or also on other factors, such as for example pre-existing ties between incoming team members and the rest of the players in the roster? This is exactly what we are going to test considering the case of the Italian basketball Major league ('Serie A-1').

3.1. The sample

In order to test our model, we collected data from the Italian Basketball Major League ('Serie A-1') from the 1987-88 season through the 2002-03 season. Each regular season begins in September and runs through May of the following year. We obtained data from the archive of the Italian Basketball League website (www.legabasket.it) for each season included in the sample. The overall data set contains information on all 38 basketball clubs that have played in Serie A-1 over that period, for a total of 253 team-year observations⁵. To assess the effect of some of our independent and control variables on team performance, we used data from the five years preceding the season considered for analyzing the performance. Further, as we used *previous year team performance* as a control variable, we eliminated from our sample those teams that have

⁵ As noted also by other researchers (e.g. Dawson, Dobson and Gerrard, 2000; Szymansky and Smith, 1997; Wolfe et al., 2005), one main difference between North American and European team sports is the tendency in Europe for domestic leagues to be organized on a hierarchical basis with teams allocated to divisions on the basis of merit through a promotion and relegation system. Usually, European sport leagues relegate teams with the worst records at the end of each season to a lower ranked league. Demoted teams can return to the higher ranked league only by finishing at the top of the lower league. This explains why we have in our sample 38 clubs and 253 team-year observations: Only four clubs of our sample have played all the 16 Serie A-1 seasons considered, all other clubs have played at least one season in downgraded leagues (A-2, B-1, etc.).

played in Serie A-2 in the previous season, for a total of 30 team-year observations. Consequently, our final sample consists of 27 basketball clubs that have played in Serie A-1 from the 1992-93 season through the 2002-03 season for a total of 143 team-year observations. Appendix A lists the teams used in this study.

Several of our independent and control variables required assessing characteristics of the individual players who played on each team in each year of our study, and then cumulating these data to arrive at the 173 team-year observations in our sample. Our source of individual player data was again the archive of the Italian Basketball League website, which contains detailed statistics on everyone who had played Serie A-1. From this source, we created a database of 3,744 individual player-year observations. We eliminated then from this database all those players who have played in the current season less than 5 minutes. We did so in order to clean our final database from all those young players who belong to a club's youth team. These young players are usually enrolled in a team's roster, but they don't play but in rare circumstances (i.e. more experienced players' injuries). Therefore, our final sample consists of 3,250 individual player-year observations.

In order to test our hypotheses, we adopted a standard multiple regression model. However, as our study was longitudinal, the model had a lagged structure that took into account the fact that some of the variables were measured over five-year moving windows. The five-year window was moved eleven times, once for each season in which we measured our dependent variables (from the 1992-93 season through the 2002-03 season). For example, for teams that have played in 1992-93 season, we used past data for 1987-91 period; for those of 1993-94, the data were for 1988-92; and so on.

3.2. Dependent variable

The dependent variable used in this study is team performance, measured as the percentage of games won by a team during the regular season. We computed this variable as the ratio between games won and total number of games played during the regular season by each team of our sample. The win-loss record is probably the simplest and most direct way to measure team performance, and it has been widely used in all previous studies in sport teams of any type (e.g. Allen, Panian and Lotz, 1979; Berman et al., 2002; Bloom, 1999; Pfeffer and Davis-Blake, 1986).

3.3. Independent variables

Team human capital. As we have seen in chapter II, teams composed by people who have better skills, better capabilities and greater experience are expected to perform better than competitors. Thus, our first independent variable is a team's human capital. In particular, we used two different indexes to measure a team's human capital.

The first measure is a team's players experience in Serie A-1. As we have said before, individual team members' experience could be a relevant factor for team performance, since with practice people can refine and improve their individual skills (Faulkner and Anderson, 1987; Nass, 1994). Experience enhances individual skills, such as, for example, identifying key information, chunking that information into a relational pattern (Prietula and Simon, 1989, Simon 1991) and developing heuristics and rules of thumb for problem solving (Garud and Nayar, 1994). Individuals with greater specific-industry experience, thus, could develop detailed knowledge about how that industry operate and, in this way, perform better than individuals with less experience (Eisenhardt and Schoonhoven, 1990). Therefore, a basketball player who has played with continuity in Serie A-1, could have developed relevant technical and tactical capabilities, and acquired relevant knowledge about how to play effectively against other opponents. For example, we all know of basketball players who always seem to be at the right place on the court, or to do the right thing at the right moment. Through cumulative experience, having faced many opponents in many different settings, a player has amassed the knowledge required to read the play and to anticipate movement of the ball and of the opponents. The look in a player's eyes, the placement of his feet, the bead of sweat on his brow, these are the signs that a player has learnt through experience to read and interpret. This kind of knowledge is very closed to the idea of tacit knowledge (Berman et al., 2002; Cook and Brown, 1999; Lam, 2000; Nelson and Winter, 1982; Nonaka and Takeuchi, 1995; Polanyi, 1969), as players usually are amazingly intelligent in practice, but almost totally hamstrung when it comes to articulate their performance. We measured team players experience by calculating for each player of a team the number of minutes he has played in the previous five regular seasons. Then, we summed up, for each team, the minutes cumulated by its roster's players.

The second measure is the previous season statistical evaluation. We used this statistical index as a proxy for measuring individual players skills and capabilities. Italian Basketball League has developed, in fact, this statistical evaluation index which is commonly used in Serie A-1 to assess players performance on the court. This index takes into consideration not only the points scored, but also other relevant technical gestures. It is computed as follows:

$$S.E.^6 = \text{points scored} + 2PT \text{ scored} - 2PT \text{ attempted} + FT \text{ scored} - FT \text{ attempted} + 3PT \text{ scored} - 3PT \text{ attempted} + \text{Rebounds} + \text{Assists} + \text{Steals} - \text{Turnovers}$$

We acknowledge that this index is not a perfect evaluation of individual human capital. In fact, by assessing player skills with previous year overall statistical valuation, we may have only measured performance, rather than true capabilities. However, as also emerged in some interviews we conducted with some industry experts (i.e. coaches, League managers, journalists), this represents a good proxy for player skills, and similar indexes based on previous years performances have been used also in other previous studies as proxies for individual skills (e.g. Pfeffer and Davis-Blake, 1986; Wright et al., 1995). We used this index for all 3,250 individual player-year observations, calculating for those players who have played in a foreign League in the previous season. In order to take into account the fact that different Leagues may have very different average technical levels (i.e. NBA is much more difficult than the Croatian League), we used some weighting coefficients suggested by the Serie A-1 experts we interviewed. Thus, we calculated a previous season statistical evaluation for each player of our sample. Then, we computed the team average overall evaluation by summing up, for each team, the previous year weighted evaluation of its roster's each player, and dividing the sum by the number of team players.

Team stability. As we have seen before, basketball is a setting in which is highly relevant experientially acquired knowledge. This is true not only at the individual level, but also at team level: How other team-mates play, and where they are likely to be positioned in a particular situation at a particular time. The cumulative experience shared with other team members seems to be a critical driver for performance. Thus, we used in our model this variable regarding team stability. In particular, we computed it

⁶ 2PT stands for 2-points throws, FT for free-throws, and 3PT for 3-points throws.

calculating the number of years a team roster's players have played together in the team considered in the five-year moving windows, and dividing this sum by the number of roster players. For example, consider Virtus Bologna in 1992-93 season. First, we calculated the number of years each player of Virtus has played together in Virtus in the five-year moving window (in this case, between 1987-88 season through 1991-92 season). Then, we divided the sum obtained by the number of Virtus players in 1992-93 season.

Relational intensity. We used this variable in order to take into account the strength of ties among a team roster's members with regard not only of the team considered, but also all the previous teams players have played. In other words, this variable takes into account the fact that strong ties are not the prerogative of only long lasting teams, but they can exist also among members of newly re-shaped teams, as they derive from them having played together in the past and in other teams. Thus, we computed this variable as the average of the tie strength of all the possible dyads player-player existing within a team in the five-year moving windows. Numerous measures of tie strength have been used in the literature (e.g. Granovetter, 1973; Krackhardt, 1992; Marsden and Campbell, 1984). These include, for example, the frequency of contact, the duration of a relationship, and the provision of emotional support and aid within the relationship. In this study, we computed this measure counting, for each team, how many times the two members of a dyad player-player have worked together in the five-year moving windows and then dividing the frequency of ties by the length of time from the first collaboration until the last one. Then, we calculated for each team the average value of all its dyads' indexes. This indicator has been previously used (Jones et al., 1997; Delmestri et al., 2005).

3.4. Control variables

Many other factors may affect a team's ability to win games or generally work effectively. In order to take these factors into account, we included other six variables in the regression models.

Coach turnover. In basketball, a coach plays a relevant role because he⁷ is the responsible for many decisions regarding both players' management (i.e. their training, skills development, etc.) and team management, (i.e. players' replacement and recruitment, play strategy, starting five, rivals' characteristics analysis, etc.). In Serie A-1, as also in other sports, coach turnover is considered to be a key mechanism for clubs owners to respond to their environment, in particular when team performance is poor (Allen et al., 1979; Pfeffer and Davis-Blake, 1986).⁸ According to the common-sense opinion prevailing in sport industries, in fact, club owners change coaches responsible for poor performance in order to improve team performance in the future (Grusky, 1963). Thus, we included this variable in our model, focusing just on between-season coach succession. We focused on this type of turnover as successions that occur in the off-season permit new coach to have a greater influence on team performance. Through summer training, pre-season friendly matches, selection of players with skills consistent to his preferred play strategy, between-season coaches are more likely to have a strong impact on team performance. Consistently to all previous studies on coach turnover (e.g. Pfeffer and Davis-Blake, 1986), we measured this control variable with a dummy variable 0/1, with one indicating that a succession event had occurred and zero indicating that a succession event had not occurred.

Coach tenure. In order to fully consider the impact that a coach could have on a team's performance, we created a variable that captured how long a coach had been with the team. This variable represents years of coaching experience with the team. As noted also by other researchers (Berman et al., 2002; Pfeffer and Davis-Blake, 1986; Wright et al., 1995), a positive relationship between coaching tenure and performance could stem from the fact that it may take some time for a coach to know players' skills and characteristics in a proper manner, to recruit players who fit with his coaching style, or to adopt play strategy more congruent with his players' characteristics. We measured this variable computing the number of year a team has been leaded by the same coach in the interval $t-1$ through $t-5$ (our time window).

Average age. We measured this variable calculating the age of each team's roster players. We then calculated an average for each team-year observation.

⁷ Although we recognize the importance of non-sexist language, the population of Serie A-1 coaches from which we drew our sample was entirely male. Therefore, for the sake of accuracy we refer to coach as 'he'.

Teams playing in Serie A-1 do not spend the same amount of money in salaries: Some of them are spending more financial resources in players' recruitment and salaries (even if this does not guarantee for team success). Further, like almost all European sport leagues, Italian basketball league is organized on a hierarchical basis with teams allocated to divisions on the basis of merit through a promotion and relegation system. Considering our sample, only four clubs have played all the 16 Serie A-1 seasons considered, all other clubs have played at least one season in downgraded leagues (A-2, B-1, etc.). Since reliable data on revenues, salaries, and profitability are very hard to obtain, we included the following control variables in order to take account of these differences among teams playing in Serie A-1.

Team tenure in Serie A-1. We measured this variable computing the number of seasons a team has played in Serie A-1. The higher is the value of this variable, the more a basketball club is used to play in Serie A-1. This variable does not measure precisely a club's financial resources, but it gives us an idea about its *status* within the league (only three clubs have played in Serie A-1 continuously between 1992 and 2002).

Previous year team performance. We measured this variable calculating the team standing in the League at the end of the previous season (team with best record win-loss has a rank position equal to 1). Again, this variable does not measure precisely a club's financial resources, but it gives us an idea about a club's sport strength and *status*, controlling whether in a particular season a team's performance is extraordinarily good (or poor) or it is closed to the team's standards.

Finally, in order to better control for potential time effects, we also introduced year dummies. These analyses showed no significant effect of time on the regression results and were therefore omitted in the results section.

3.5. Results

Table I shows the descriptive statistics and correlations between all of the variables included in the analysis (Table I is reported in Appendix B). The bivariate relationships reveal that all independent variables are significantly related to team performance. For what concerns control variables, the two variables regarding coach characteristics (turnover and tenure with the team) show no significant relationships

with our dependent variable. Other control variables (team tenure in Serie A-1 and previous season team performance), instead, show significant bivariate relationships with team performance in the directions we expected.

Table II summarizes the results of the test concerning the effects that team human capital, team stability, and relational intensity have on team performance. In this series of regression models, we first tested these effects separately and then jointly. In particular, Model 1 tests the effects of control variables. Model 2 tests the regression of the performance in relation to team human capital. Model 3 tests the effect between team stability and team performance. Model 4 tests the relationship between relational intensity and team performance, and model 4 provides a test for all the variables jointed, showing the combined effects of human capital and social capital variables.

Table II. Results of regression^a analysis.

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Coach turnover	-.092	-.092	-.077	-.088	-.083
Coach tenure	.094	.088	.090	.089	.078
Team tenure in Serie A-1	.224***	.224***	.241***	.258***	.200**
Previous season team performance	-.556***	-.374***	-.486***	-.493***	-.368***
Average age	-.045	-.045	-.066	-.069	-.065
Team players' experience (H1)		.243***			.260***
Team players' overall evaluation (H1)		.127**			.145**
Team stability (H2)			.140**		.115
Relational intensity (H3)				.185***	.207**
R ²	.430	.492	.457	.485	.534
Adj R ²	.419	.483	.430	.472	.505
N	143	143	143	^a 143	143

^a Standardized regression coefficients are shown; *p < .10, **p < .05, *** p < .01

All four models presented in Table II are significant overall as indicated by the F-tests ($p < 0.001$ for all models). Further, each model shows an increase in R^2 over the model 1 with control variables. In particular, in model 1 we have $R^2 = .43$; in model 2, $R^2 = .49$; in model 3, $R^2 = .45$; in model 4, $R^2 = .48$; and in model 5, $R^2 = .53$).

Model 1 shows the results of the basic regression model, which only includes control variables (coach turnover, coach tenure, previous season team performance, team tenure in Serie A-1, and team players average age), and explains 43% of the variance. In particular, it is interesting to point out that only previous season team performance and team tenure in Serie A-1 are consistently significant in all models, while coach turnover and tenure, and team players average age are not significant at all.

Model 2 introduces human capital variables (team players experience in Serie A-1 and their previous year statistical evaluation), which are both positively significant to team performance. Model 3 and model 4 tests respectively team stability and relational intensity effects on team performance. Both social capital variables are shown as positively significant to team performance. Model 5 tests all these variables jointly, and all our independent variables are shown as significant with the exception of team stability, which is not significant in our last model.

Our final model results show that about 54% of the variance of our dependent variable is explained by human capital, relational intensity, and some control variables. Therefore, our hypotheses 1 and 3 could not be rejected. In particular, hypothesis 1, which predicts a positive relationship between a team's human capital and its performance, received support. In fact, both team players experience and overall evaluation positively impact team performance. In particular, team players minutes cumulated in previous Serie A-1 seasons seem to have a stronger effect than overall evaluation ($\beta = .260, p < .01$ vs. $\beta = .145, p < .05$). In the same way, hypothesis 3, which predicts a positive relationship between a team's relational intensity and its performance, received support. In fact, model 5 shows how relational intensity positively impacts team performance ($\beta = .207, p < .05$).

On the other side, hypothesis 2 is only partially supported as team stability is shown to have a significant effect on team performance, but only if considered by itself (model 3; $\beta = .140, p < .005$). When we introduce other independent variables, team

stability has no more significant effect on team performance. Therefore, we can conclude that hypothesis 2 is not supported.

Finally, in order to test potential curvilinear effects in our independent variables (in particular in our social capital variables), we run other analysis that showed no significant effects and, therefore, were omitted in the results section.

CHAPTER IV.

DISCUSSION AND CONCLUSIONS

This study pointed out some interesting results, and the analysis confirmed many of the expectations expressed in the research propositions. Before discussing the central variables of the present study, it is worth making a brief comment on the control variables. Considered independently, in fact, control variables explain more than 40 percent of the variance in basketball team performance. In particular, as we have seen in the results section, only previous season team performance and team tenure in Serie A-1 are consistently significant in all models, while coach turnover and tenure, and team players average age are not significant at all.

This result regarding control variables, that have shown to have significant effects on performance, is not completely unexpected. As we acknowledge in chapter III, in fact, teams playing in Serie A-1 do not spend the same amount of financial resources in players, coach, and technical staff recruitment and salaries. Since reliable data on revenues, salaries, and expenditures are very hard to obtain, we included these two control variables in order to take account of such differences among teams playing in Serie A-1. These variables do not measure precisely a team's financial resources, but they give us an idea about its *status* within the league. In fact, as only three clubs have played in Serie A-1 continuously between 1992 and 2002, team tenure could make us able to distinguish between teams that are used to play in Serie A-1 (and thus struggling for higher win-loss records) and those that are not. The same way of reasoning could be applied to the other control variable, previous year team performance, which gives us an idea about a team's capabilities and *status*, controlling whether in a particular season a team's performance has been extraordinarily good (or poor) or it has been closed to its standards. Finally, it seems interesting to point out that a team's tenure and its past performance do not guarantee team performance, as these variables are statistically relevant but they do not account for all the variance of our dependent variable.

A partially expected result is also that coach turnover and his tenure with a team are not significant. This result is consistent with most previous studies conducted on management turnover (e.g. Allen et al., 1979; Boeker, 1997; Pfeffer and Davis-Blake,

1986). This stream of research has fundamentally showed, in fact, how a change in managers typically has only a small impact on subsequent performance or no effect at all. This result is interesting because rejects the opinion prevailing in sport industries, according to which team owners are used to change coaches in order to improve team performance. Our results show indeed how coach turnover does not have any effect on team performance, supporting thus the idea that team performance is the result of highly complex processes and depend not on a single factor, but on different ones. Therefore, coach turnover could become an example of ritual scapegoating (Gamson and Scotch, 1964; Boeker, 1992). However, an unexpected result is that coach tenure with the same team has no significant effect on team performance. In fact, consistently to some previous findings (e.g. Berman et al., 2002; Pfeffer and Davis-Blake, 1986; Wright et al., 1995), we were expecting a positive relationship between coaching tenure and performance.

Regarding our independent variables, we found that there is a positive relationship between a team's human capital and its performance: Higher levels of player quality are positively related to winning percentage. This result confirms the relevance of individual team members' characteristics, supporting, thus, the human capital theory's idea that teams composed by people who have better skills, better capabilities and greater experience are expected to perform better than competitors. Results have confirmed, in fact, how both our individual human capital variables (overall evaluation and experience) have a significant positive effect on team performance.

In particular, the most relevant human capital factor for team performance has been shown to be individual team members' experience accumulated playing in Serie A-1 in previous seasons. This finding confirms the relevance of practice and experience in refining and improving individual skills (Faulkner and Anderson, 1987; Nass, 1994). Individuals with greater industry specific experience (represented in this case by the minutes played in Serie A-1 regular seasons), in fact, could develop detailed knowledge about how effectively operate in that industry and, thus, perform better than individuals with less experience. In other words, a basketball player who has played with continuity in Serie A-1, could have developed relevant technical and tactical capabilities, and acquired relevant knowledge about how to play effectively against other opponents. Through cumulative experience, and having faced many opponents in many different

games, a player could have been able to store the knowledge required to read the play and to anticipate movement of the ball and of his opponents. This kind of knowledge is very closed to the idea of tacit knowledge, and the more uncertain and complex are industry activities, the more relevant is the individual tacit knowledge that individuals have developed through experience (Berman et al., 2002; Jones et al., 1997; Lam, 2000; Nelson and Winter, 1982; Nonaka and Takeuchi, 1995).

According to these findings, thus, the better skills and the greater experience have individually a team's members, the better a team is expected to perform. Therefore, it seems reasonable to argue that teams aiming at improving their performance need to be able to acquire individuals with greater levels of experience in the industry. Teams experiencing some degrees of team membership turnover and trying to get more skilled and more experienced individuals from other teams may improve their performance since new members could carry their knowledge and skills to the new team (Argote and Ingram, 2000; Madsen et al., 2003). This is a very common practice in many industries, as more and more organizations and teams are engaged in head-to-head competition for more skilled and capable human capital (Gardner, 2005).

However, a practice that is widely spread does not mean that it is also effective. As noted by several authors, in fact, fostering the focus on acquiring most talented people from competitors is not always associated with an increase in performance (Groysberg, Nanda and Nohria, 2004; Pfeffer, 2001). In fact, not always people with great skill and experience are able to deploy their knowledge. For example, as noted by previous studies (e.g. Szulansky, 2000), the effectiveness of the exchanges of information between the recipient and the source of knowledge depends on the strength of tie between them, which is reflected in the ease of communication and in the "intimacy" of such relationship. Also our findings confirm this idea: They show how team performance could be affected not only by the individual characteristics of its members, but also by the structure of relationships existing among them. In particular, results have supported the idea proposed by social capital theory that close and long-lasting ties within team members can positively affect performance (Coleman, 1988, 1990). These type of relationships can facilitate the creation of routines, common languages and trust, increasing thus the likelihood of co-operative behaviors with positive effects on team performance.

In particular, the finding that in the final model relational intensity is significant, while team stability is not, allows us to contribute to research on the relationship between team stability and performance in two main ways.

First, our findings confirm the idea that strong ties are not the prerogative of only long lasting teams, but they can exist also among members of newly re-shaped teams, as they derive from them having worked together extensively in the past in other teams. This seems to be an interesting contribution to extant literature, as previous studies have analyzed the issue of team stability sharing the implicit assumption that a stable team is characterized by the presence of strong ties among its members, while a team whose members change often is characterized by weak ties. They have just focused on ties existing among groups' members deriving from previous experience within the current team. Our results show how strong ties deriving not only from having worked together in current team, but also from having worked together in other teams have a strong positive affect on team performance.

Further, this finding (and this is our second main contribution) allows us to reconcile partially contrasting previous results on the issue of how team stability could affect performance. The fact that team stability is significant in model 3, but not in model 4 seems to confirm the idea shared in the literature that it may be beneficial up to a certain point, after which it may become detrimental (e.g. Berman et al., 2002). In other words, team members interacting over a long period of time are able to develop standard work patterns that are familiar and comfortable, patterns in which routine and precedent play a relatively large part. In this way, teams establish certain stable structures of interlocked behaviors and relationships, which lead to synchronicity and a better execution of the required tasks (Berman, Down and Hill, 2002; Weick and Roberts, 1993). Nevertheless, team members, who have been performing their jobs for extended time periods, could come to rely more and more on their customary ways of doing things to complete their task requirements. Thus, with increasing team stability, team members could gradually become more isolated from outside sources of relevant information and new ideas, and less receptive toward communications that threaten to disrupt significantly their comfortable patterns of behavior. In this way, individuals within the team may be unwilling or unable to adopt new modes of behavior, particularly if they involve the unlearning of existing tacit routines, and, thus, team

stability may be detrimental to team performance by limiting the team's ability to break with the past patterns, if need arises (Berman, Down and Hill, 2002; Hansen, 1999; Katz, 1980).

However, as we said in chapter II, this view is characterized by the implicit assumption that routines are a source of inertia. This assumption is consistent with the traditional perception of routines, which have commonly been seen as static and unchanging objects, re-enacting the past (Nelson and Winter, 1982; Baum and Singh, 1994; Aldrich, 1999; Simon, 1945; Hannan and Freeman, 1983). Our findings about the significant effect of relational intensity on team performance seem to confirm recent perspective on routines, which emphasizes the flexibility intrinsic in routines (Feldman, 2000; Feldman, 2003; Feldman and Pentland, 2003; Howard-Greenville, 2005). In particular, these recent studies recognize the routines' inertial characteristics, but they consider the potential for endogenous change in organizational routines themselves (Feldman and Pentland, 2003). One important mechanism that allow routines to contribute both to change and stability is represented by the connections that routines make between individuals (Feldman and Rafaeli, 2002). These connection, in fact, allow individuals to come to a shared understanding of why certain actions are appropriate, thus also increasing their ability to coordinate and adapt.

Therefore, while previous studies have highlight team membership turnover as the only solution in avoiding team stability negative effects on performance, our findings suggest how a good solution could be represented by having a good mix between strong ties developed within current team and previous team experiences. If keeping a team too stable over time may not be a good solution, having team composed by members who present shared ties deriving from past common work experiences may be. In this way, in fact, a team could avoid the potential negative effects related to routines ossification processes (i.e. once a collective mind has coalesced around a set of interdependent individual schemata, it may be progressively more difficult to alter them) as its team members have also experienced working in other teams, and could exploit the advantages deriving from having strong and long lasting ties. In other words, due to their experiences also in other teams, some team members may have different understanding of what needs to be done and how, but past connections among team members could provide an affective conduit through which explore different

interpretations and to come to a shared understanding about what actions will be taken in a specific situation. These shared understandings help teams maintain a pattern of behavior that coordinates the actions of individuals while also adapting to variations in the internal and external environment. In this way, close and long-lasting ties within team members can create a system in which there is more knowledge available than the cumulative knowledge of the individual actors (Weick and Roberts, 1993).

4.1. Limitations and directions for future research

Our study, like others, presents a number of limitations. For example, as emotion is so characteristic of many aspects of sport (Wolfe et al., 2005), it would have been useful to include measures of relational intensity regarding the more affective and personal side of the collaborative relations. Emotion could represent, thus, an opportunity for future studies assessing, for example, the proposition that positive emotions fuel upward spirals toward optimal individual and organizational functioning that can reverberate across organizational boundaries to customers (Fredrickson, 2003). One might investigate the extent to which positive emotions influence individual and team performance aspects of the performance of a team's fans.

Second, while we have been extremely comprehensive with regard to the inclusion of teams and players that have played in Serie A-1, we have not made a distinction between different tactical roles that players may have in a team (i.e. play-maker, pointing-guard, forward) and how that might influence the relational patterns and their outcomes. Future research would do well to include a consideration of such team-roles. Future research may also investigate as antecedents of performance other network-based roles, such as for example network centrality or structural holes (Burt, 1992; Tsai, 2002).

A third limitation regards our research setting. In fact, although using sport as a research setting offers a number of advantages (we have seen them in chapter III), it also raises some questions about the generalizability of the results. As also noted by other researchers (e.g. Bloom, 1999; Harder, 1992; Wolfe et al., 2005; Wright et al., 1995), the professional sports context is in some ways unique. For example, salaries are much higher than in most other occupations, most players have a restricted ability to move freely from team to team and relatively shorter careers. Further, obvious

differences exist between basketball teams and businesses in terms of dimensions, how to measure resources, and what skills are able to affect performance. For example, the business skills that affect firm performance are quite different from the team-member skills that are relevant to basketball performance, and measures of business firm performance (sales, profitability, etc.) differ from measures of basketball team performance (i.e. won-lost records). Given the organizational peculiarities of basketball teams as to size (they only have 12-15 players), number of different jobs (team-roles), task (playing basketball versus producing a product or service), and skills (physical versus cognitive), the observed results should be applied to large multifaceted organizations only with caution. However, testing theory in large organizations is extremely difficult, and, thus, despite some generalizability problems, our sample provides an internally valid test of theoretical propositions regarding human and social capital. Therefore, there is no reason to expect that our findings are not applicable to profit-seeking organizations engaging in business strategies.

Finally, because of practical constraints, we omitted some variables that could have helped explain our dependent variables, such as team budget for salaries and recruitment, and a coach's play strategy. Regarding this latter variable, in fact, in spite of efforts to acquire team members who possess the skills required by a coach's preferred strategy, mismatches between preferred strategy and existing team skills is a problem that is often evident among basketball teams. In any given season, a human capital pool might not include the capabilities necessary for implementing a coach's preferred strategy. The coach then has two strategic choices. First, he can use the strategy anyway and hope that the players will be able to successfully implement it in spite of the skill shortage. The second (and more likely) choice is to adopt a strategy more congruent with the skills of the existing players. Therefore, it could be interesting for future research to address this issue and to assess the match between coach strategy and players skills. Regarding also team performance, we did not consider some other potential variables such as club financial performance because, as we have already said, reliable data on revenues, salaries, and profitability are very hard to obtain. Future research may benefit from considering also these aspects of team performance. One interesting potential research may also investigate sport team performance on and off the playing field, and in particular its relationship with the interests of stakeholders (i.e.

local community, local public authorities). In fact, according to stakeholder management literature (e.g. Agle, Mitchell and Sonnenfeld, 1999; Shulman and Bowen, 2001; Wolfe and Putler, 2002) creating compatibility between organizational and stakeholder priorities produces a good fit between the organization and its environment and, thus, could increase the probability of the organization's success.

Despite these limitations, as we said before, we think our study could contribute to research on team performance in several ways. First of all, we have identified two different main determinants of performance, related to human and social capital. Higher levels of player quality are positively related to winning percentage, but the value of social capital cannot be underestimated. Working to improve the quality of team members may be an important factor in attaining success, but it could be not sufficient. Keeping teams together may be important, but most importantly, having team composed by members who present shared ties deriving from past common work experiences may be a good solution. Obviously, the best situation would seem to be acquiring high-quality players and keeping them together long enough for significant synergies to be created, but the price of obtaining a whole team of star employees may preclude this option. Thus, keeping good employees (but not stars) together may be a better viable solution. Finally, we tried to contribute to the evolving representation of organizational routines (e.g. Feldman and Pentland, 2003) by looking at how relational patterns could affect routines ability to adapt to variations in the internal and external environment, improving consequently team performance.

APPENDIX A.

Teams included in the sample

The 27 teams used in this study are shown below:

- 1 Andrea Costa Imola
- 2 Basket Livorno
- 3 Basket Rimini
- 4 Fabriano Basket
- 5 Felice Scandone Avellino
- 6 Fortitudo Bologna
- 7 Juve Caserta
- 8 Libertas Livorno
- 9 Libertas Pallacanestro Forlì
- 10 Libertas Pesaro
- 11 Libertas Udine
- 12 Mens Sana Siena
- 13 Montecatini Sporting Club
- 14 Olimpia Basket Pistoia
- 15 Olimpia Milano
- 16 Pallacanestro Biella
- 17 Pallacanestro Cantù
- 18 Pallacanestro Reggiana
- 19 Pallacanestro Treviso
- 20 Pallacanestro Trieste
- 21 Pallacanestro Varese
- 22 Reyer Venezia
- 23 Roseto Basket Town
- 24 Scaligera Basket Verona
- 25 Viola Reggio Calabria
- 26 Virtus Bologna
- 27 Virtus Roma

APPENDIX B

Variable	Mean	Stand. Dev.	1	2	3	4	5	6	7	8	9	10
Team performance	.52	.18	1.00									
Coach turnover	.51	.50	-.14	1.00								
Coach tenure	1.01	1.16	.06	-.03	1.00							
Team tenure in Serie A-1	7.21	3.79	.35***	-.10	.07	1.00						
Previous season team performance	6.88	4.08	-.61***	.13	.02	-.24***	1.00					
Average age	26.05	1.61	-.00*	.08	.06	.03	.08	1.00				
Team stability	1.73	1.26	.30***	-.17**	.02	-.08	.23***	-.38***	1.00			
Players' experience	14841	6281	.51***	-.03	-.50	.20**	.35***	-.50***	.32*	1.00		
Players' overall evaluation	7.34	1.96	.39***	-.01	.08	.02	.05	-.33***	.12	.36***	1.00	
Relational intensity	1.05	.72	.38***	-.19**	.04	-.09	-.18**	-.34***	.34*	.21*	.18*	1.00

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