

**INTERNATIONAL EXPERIENTIAL DIVERSITY AND PERFORMANCE AT  
PROJECT ORGANIZATIONS: THE CASE OF NATIONAL FOOTBALL TEAMS**

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## **ABSTRACT**

This paper sheds further light on the link between diversity configurations in project teams and team performance. The paper draws upon detailed player background profiles and team performance data from the FIFA World Cup 2006, including profiles of the 736 players who participated in the tournament and performance data from the 64 matches played. Our findings highlight the need to carefully manage experiential diversity in project team settings in order to benefit from access to diverse tacit resources while at the same time avoiding that the integrative capacities of teams become overstretched. At the same time, we find little support for the notion that longevity of team membership is associated with higher performance in project teams. We derive implications for project team composition practices and discuss alternative interpretations of our findings.

**KEYWORDS:** experiential diversity, team performance, sports teams

## INTRODUCTION

Over the past decades, the forces of globalization have led to widespread adoption of new forms of organizing and conducting work. Increasing competitive pressures in the global economy have raised the need to organize work around projects (DeFillippi & Arthur, 1998), allowing companies to combine specialized skills and expertise on a temporary basis when seeking solutions to complex problems. At the same time, advances in information and communication technology have reduced the costs of combining the heterogeneous knowledge bases of geographically dispersed experts, leading to a substantial rise in the use of globally dispersed teams to work on complex tasks and projects in multinational companies (DiStefano & Maznevski, 2000).

Global project teams are associated with both opportunities and challenges. First, companies need to manage the temporary nature of tacit knowledge created in project teams by ensuring that sufficient integration and retention mechanisms are in place to transfer and maintain knowledge beyond the boundaries of each project team (i.e. between concurrent projects and across successive projects). In doing so, companies need to strike a balance between permanent and temporary structures within the organization, making sure that the permanent elements of the organization facilitate knowledge integration and transfer between concurrent temporary units and enable the retention of knowledge across temporary units over time.

Second, companies adopting global project teams need to manage the balancing act between team member heterogeneity and team cohesion (Bachmann, 2006). Globally dispersed teams are able to draw upon expertise and resources from a variety of geographical locations simultaneously. Hence, such teams have the potential to achieve superior performance if appropriate integrating mechanisms are installed to alleviate the difficulties that are likely to arise due to team member heterogeneity and physical distance (Maloney & Zellmer-Bruhn,

2006). For global teams to realize their potential, they must be able to make effective use of the variety in team members' backgrounds while at the same time developing an internal climate that promotes efficiency in decision-making and team-wide decision commitment once agreements have been reached.

A vast literature on the effects of diversity in team settings suggests that team performance is partially a function of interdependencies between team member characteristics (Lau & Murnighan, 1998; Milliken & Martins, 1996), in addition to the impact of individual team members' skills, knowledge, and incentives. This research stream has examined a broad range of variables derived from the demographic profiles and career background characteristics of team members, showing that (1) a significant part of the variance in the performance of teams can be explained by team composition, and (2) the link between team composition and performance is complex and contingent upon environmental conditions (van Knippenberg & Schippers, 2007).

Furthermore, the team diversity literature distinguishes between different types of teams, such as work teams, project teams, and top management teams (Cohen & Bailey, 1997). Past research shows that the type of team has implications for the relationship between team diversity and performance. Several studies find that temporally unconstrained teams such as top management teams and regular work teams may be able to effectively exploit the advantages of team member heterogeneity following an initial period of team member assimilation (e.g. Elron, 1997; Watson, Kumar, & Michaelsen, 1993). On the other hand, research on team member diversity in time-limited project teams suggests that diversity primarily serves as an impediment to overall team performance (e.g. Ancona & Caldwell, 1992). The main purpose of this study is to shed further light on the effects of heterogeneous team member backgrounds on team performance in a project-based setting.

While substantial progress has been made to illuminate the link between team composition and team performance in organizations, this research stream faces several key challenges that often remain unexplored in research conducted in organizational settings. Examples include the difficulty of obtaining objective performance measures, varying incentive structures, and the inability to control for the characteristics of the candidate pool (i.e. the source of team diversity). As these challenges are inherently difficult to overcome in research conducted in organizational settings, this study utilizes a dataset from the world of team sports to extend our understanding of the link between team composition and performance in a project-type team setting. In line with the parallels identified by Keidel (1987) and Wolfe, et al. (2005) between organizational settings and sports team settings, several recent studies make use of datasets from team sports in order to overcome some of the limitations that are frequently associated with research on organizational teams (e.g. Berman, Down, & Hill, 2002; McNamara & Peck, 2006; Timmerman, 2000). These researchers take advantage of the favourable notions of studying sports teams, such as access to objective performance measures and ability to control for different incentive structures.

This paper examines the extent to which the combination of experiential characteristics among team members explain the performance of national football<sup>1</sup> (soccer) teams at a major international tournament, namely the Fédération Internationale de Football Association (FIFA) World Cup in Germany in 2006. On a theoretical level, we adopt the view that individual team members' resource configurations in high-impact project teams and the combination of resource configurations among project team members are potential sources of competitive advantage (Castanias & Helfat, 1991; Kor, 2003). To derive our hypotheses, we integrate this view with the rich literature on team diversity configurations and performance outcomes (for reviews, see e.g. Cohen & Bailey, 1997; Mannix & Neale, 2005; van

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<sup>1</sup> The term 'football' in this paper refers to the game that in some parts of the world is referred to as 'soccer'. We use the term football as it is the official English name of the game.

Knippenberg & Schippers, 2007). Using performance data on the 32 participating national teams (derived from a total of 64 matches played at the tournament) and detailed biographical data on all 736 participating players, our findings provide new insights into the performance effects of shared team experience and experiential diversity in time-limited (project) team settings. We also elaborate on the implications of our findings for team selection practices in professional sports teams.

The structure of the paper is as follows: First, we highlight the theoretical links between team composition, tacit knowledge, capability development, and team performance in a project-based setting, and derive hypotheses pertaining to the expected performance impact of different conceptualizations of experience and experiential diversity of team members in national football teams. Next, we describe our data and research methods, followed by a presentation of our results. Finally, we discuss the findings and implications of our study.

## **THEORY AND HYPOTHESES**

### **National football teams and organizational project teams**

The combination of permanence and transience found in national football teams bears similarities to the nature of many organizational project teams. Team members at national football teams are called upon, temporarily leaving their regular (club-level) work behind, to work in a temporary project team setting with the goal of accomplishing a specific, pre-defined objective (i.e. winning a game or a set of games). Some team members possess a set of skills that are indispensable to the team regardless of the type of project task, resulting in regular team participation. Other team members are requested to join a project team due to strong recent performances on auxiliary tasks, as substitutes for first-choice team members that are unavailable, or because their specific set of skills is particularly congruent with the

project task at hand. These team members are likely to participate at irregular intervals or on a one-off basis.

Project teams differ in the degree to which they are dominated by permanent or transient team membership (Lindkvist, 2005). The regularity of team membership is particularly dependent on the availability of versatile and indispensable talent and the overall size of the resource pool. If only few candidates are considered to be indispensable regardless of the project task and the project can draw candidates from a large resource pool, the project team is likely to change substantially from one project to the next. This results in a rather loose collectivity of team members with limited ability to develop team-level learning effects over time. On the other hand, if many candidates are considered to be indispensable across project contexts and the resource pool is rather limited in size, the project team is inclined to be dominated by a core group of team members over time, facilitating intertemporal learning at the team-level.

This closely resembles the distinction outlined by Lindkvist (2005), namely that organizational project teams differ in the extent to which they can be characterized as collectivities- or communities-of-practice. Project teams emerging out of a loosely knit and diversely skilled collectivity-of-practice are likely to have substantially greater integration needs than project teams composed of members based in a rather tightly knit community-of-practice. At the same time, however, project teams derived from a less tightly knit collectivity-of-practice can typically draw upon a larger potential knowledge base as team members are likely to be more dispersed, thereby accumulating a more heterogeneous set of experiences.

While the inclination towards permanence or transience of team membership is an important indicator of a team's learning trajectory and integration needs, it is also important to recognize the role of the permanent contexts in which project teams are embedded (Sydow, Lindkvist, & DeFillippi, 2004). The permanent organizational structures surrounding project teams enable

the explicit knowledge that has been created during the course of a project to be absorbed and transferred across temporally discrete projects. Meanwhile, project-specific tacit knowledge becomes part of the team members' individual knowledge stock and will be transferred to subsequent projects within the same organization to the extent that team members are assigned to successive related projects or convert tacit knowledge from a preceding project into explicit knowledge in a subsequent project.

### **The role of individual- and team-level experience at project teams**

Over the past years, management scholars studying organizations and teams have often defined individual team members' experiential characteristics as a set of resources that teams draw upon in the decision-making process (e.g. Castanias & Helfat, 2001; Carpenter, Sanders, & Gregersen, 2001; Kor, 2003; Sambharya, 1996). Experience characteristics are frequently employed in the literature as indicators of human capital accumulation at the individual level (e.g. Carpenter, et al., 2001) and as proxies for the stock of tacit knowledge at the team level (e.g. Berman, et al., 2002). Both individual experience bases and experiential diversity constitute potentially unique sources of advantage that may produce superior team performance over time (Bunderson & Sutcliffe, 2002; Carpenter, et al., 2001).

The diversity of individual experiential backgrounds is a source of tacit knowledge, enabling well-managed project teams to build upon the variety of perspectives within the team (or, in the case of sports teams, exposure to a variety of playing styles) to create fruitful learning environments (cf. Gibson & Vermeulen, 2003). At the same time, however, experiential diversity gives rise to substantial integration needs, which become particularly evident in project-type settings and which must be managed effectively to avoid having a disruptive effect on team performance (Ancona & Caldwell, 1992).

With the accumulation of individual experience, team members develop auxiliary tacit resources that bestow them with the ability to make better use of their latent skills (i.e. talent) as well as their learned abilities. At the level of project teams, tacit resources can be developed by mutual learning and interaction over time, integrating the multitude of experiences held among project team members and learning to make the best possible use of the resources available within the team. Shared experience within a team thereby translates into improved intra-team systems and routines that enhance overall team performance (Berman, et al., 2002), conditioned on the extent to which team membership is geared towards longevity (Lindkvist, 2005). Even though tacit knowledge is by definition non-quantifiable, as the codification of such knowledge would imply that it is no longer tacit, past research has operationalized experience as a proxy for the *stock of tacit knowledge* held by individuals or teams (Berman, et al., 2002; Carpenter, et al., 2001).

Thus, our research framework (see Figure 1) proposes two main sources of between-player capabilities: (1) the combination of team members' past experiences, and (2) the extent of shared experiences between team members.

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Insert Figure 1 about here

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The extent to which a team's experiential characteristics translate into productive advantages depends on whether the accumulation of shared experience within the team or the combination of individual experiences at the team-level contribute to the creation of tacit knowledge stocks that can be effectively deployed in the team's subsequent value-generating activities. This is particularly evident at project organizations, where the effective combination and deployment of tacit knowledge stocks critically depend on the capacity to

leverage common experience bases and integrate diverse experience bases within the limits imposed by the time frame and resources of the project.

### **Picking resources and building capabilities at project organizations**

Analogous to Makadok's (2001) notions of resource-picking and capability-building, the manager of a project team has two key functions in the endeavour to optimize team performance. The resource-picking task of the project team manager is to select the project team members from the overall pool of candidates. This is equivalent to the task of a manager of a national football team, who must reduce the candidate pool (i.e. the football-playing male population of a country) down to the selection of 23 squad players that travel to the FIFA World Cup tournament. Subsequently, prior to the start of each game, the national team manager will select the eleven players (from the squad of 23) that are deemed to optimally fill the positions on the playing field for the purpose of achieving each individual project task (i.e. winning the game at hand).

From a Ricardian perspective, the process of picking the best possible resources (i.e. players) would be the key to achieve superior performance. Under the assumption of a normal and symmetric distribution of football-playing skills within each country, the tails of the skill distribution are longer in countries with a larger football-playing population (Gelade and Dobson, 2007; Hoffmann, Ging, & Ramasamy, 2002; Milanovic, 2005). This would imply that the country with the largest base of active football players would consistently produce more top players in each position on the field, and, thus, that the performance of national teams at international football tournaments would be skewed entirely towards the largest football-playing nations.

However, while the availability of skill and talent in the population is certainly likely to have a substantial impact on the performance of national football teams over time, it is unlikely to

be the sole determinant of such performance in a single tournament. First, due to the small number of players that are located in the tails of the skill distribution and the random component in the assignment of extreme talent to countries, the country with the largest football-playing population is unlikely to consistently produce top players in all positions on the field at the same time, despite its numbers advantage. Second, the literature on team composition and performance suggests that the effective combination of team members' skills and abilities plays a key role in the process of achieving high team performance.

The other key function of a project team manager is the responsibility for capability-building within the project team. This refers to the notion of a capacity to effectively deploy and combine resources to enable team members to develop superior solutions and routines and thereby optimize performance with the available resources. Such capacities are developed through interactions between team members and the context within which the team operates. These capacities become part of the team's stock of tacit knowledge, which the project team manager subsequently develops over time by seeking to strike an effective balance between replication and renewal processes (Shamsie, Martin, & Miller, 2009).

In line with our research model (see Figure 1), we argue that both the extent to which players in a project team have accumulated shared experiences as well as the heterogeneity of past individual experiences may facilitate intra-team capability development. This is based on the notion that shared team experience and diverse career backgrounds increase the stock of tacit knowledge that exists between team members and within individual team members respectively.

### **Shared team experience and team performance**

The concept of shared team experience derives from the idea that project teams learn through interaction between team members over time. In football teams, training and playing together

repeatedly over an extended time span enables players to intuitively anticipate the decisions and moves of their fellow team members in competitive situations and develop an implicit and mutual understanding of how to exploit the strengths and avoid exposing the weaknesses of their team colleagues. In line with tacit knowledge and learning perspectives on capability development in teams, Berman, et al. (2002) find that the amount of shared team experience is positively associated with team performance (albeit subject to diminishing returns in the long-run due to higher returns to learning at initial stages of team interaction). We apply this logic to the notion of project teams and hypothesize that there is a positive association between the amount of shared national team experience that players have accumulated over time and team performance.

*Hypothesis 1: A positive association exists between shared team experience and the performance of national football teams.*

### **Experiential diversity and team performance**

In addition to the experience that players accumulate when selected to play for their national team, these players also gather experience while playing for their club teams. In fact, as national team matches take place infrequently relative to club matches<sup>2</sup>, players obtain the vast majority of their playing experience while on duty for their club teams. Whereas FIFA rules do not allow mobility between national teams<sup>3</sup>, players are free to migrate across borders at club-level (at least to the extent that they are able to obtain a work permit for the destination country). This implies that players can accumulate international experience during their club careers.

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<sup>2</sup> A regular national team player who plays for a club in one of the major European leagues and avoids injuries will typically play approximately ten matches for his national team and approximately 50 matches for his club team in an average season.

<sup>3</sup> Eligibility to play for a national team is determined by passport. Dual passport holders can choose which country to represent. Once made, the choice of national affiliation is final and may not be reversed as soon as the player has been involved in a competitive match for the chosen country.

As outlined by McNamara and Peck (2006), the game of football has a strong cultural component, as the game is viewed and played differently across the world. These different playing styles are embedded in national tradition and culture and are relatively static in nature. Thus, the accumulation of experience in a foreign country enables an individual to access a new set of potential capabilities. The acquired capabilities are amalgamated with existing capabilities to create a unique hybrid state for each individual team member, comprising both the breadth of the team member's experiences as well as the depth of each experience. We identify two main ways in which team members' exposure to different countries with different styles of play may be an asset to a national team.

First, international experience enables individual players to broaden their stock of tacit knowledge about the game of football, essentially improving their ability to anticipate solutions in a wider array of in-play situations. Players with such backgrounds are able to implicitly utilize their diverse experience base, for example in order to recognize threats from the opposing team at an early stage or seek novel solutions in difficult situations during a match. The usefulness of international experience for company decision-makers has been widely discussed along similar lines in the management literature, in particular in terms of gaining access to tacit resources and as a potential source of competitive advantage (Carpenter, et al., 2001; Daily, Certo, & Dalton, 2000). Hence, we anticipate that the average career diversity of individual team members (i.e. the extent to which individual players in a team have had substantial exposure to multiple national playing environments) is positively associated with team performance.

*Hypothesis 2: A positive association exists between the average career diversity of individual team members and the performance of national football teams.*

Second, national team members' exposure to a vast variety of unique playing environments makes it possible for the team as a whole to draw upon impulses and ideas from a broad

spectre of different playing styles. Varied experiential backgrounds of team members provide the team with an opportunity to build unique intra-team capabilities that integrate acquired skills and practices from multiple environments. However, for the entire team to be able to exploit the latent potential of a vast experience base, the national team players need to maintain a strong and open learning environment and develop systems and routines to quickly recognize promising skill combinations and effectively transform such opportunities into working tactical options. Given the limited time that national teams spend together, we expect that simultaneous impulses from a large number of countries may have a distracting impact on the effectiveness of training and the development of intuitive in-game understanding among team members. Hence, we hypothesize a negative relationship between the overall geographical diversity of team members' career backgrounds and team performance.

*Hypothesis 3: A negative association exists between the geographical spread of international experience at team-level and the performance of national football teams.*

## **DATA AND METHODS**

### **Advantages of studying national football teams**

The setting of this study enables us to specifically study the impact of experience and experiential diversity of team members on team performance under conditions of a more controlled environment and with greater availability of detailed data than in comparable organizational settings. In particular, the following three factors contribute to the contextual suitability of this research setting:

- a. *Objective performance measurement.* Obtaining reliable and objective performance indicators at the team-level is one of the most difficult challenges in organizational

research, as the performance of a single team within an organization is typically conditioned on the interdependence between organizational units as well as various factors beyond team members' control. Sports teams, on the other hand, produce results that derive directly from the performance of the team itself. As all teams that participate in a particular event or tournament face the same rules and regulations, we are able to employ performance measures that fairly accurately reflect the actual performance of a team, without disregarding the fact that uncontrollable factors such as luck and refereeing errors may also play a certain role (cf. Carmichael & Thomas, 2005).

- b. *Aligned incentives.* In management research linking team composition and performance, it is often difficult to account for variability in incentive structures among the studied teams. In reality, however, teams from different firms or organizational units may face incentive structures that influence both their effort levels and their risk-taking propensity. In this study, on the other hand, all players and teams face approximately the same incentives. While in the service of their national teams, players do not receive a salary per se. Instead, most national football associations negotiate a bonus agreement with the players prior to the tournament, rewarding certain levels of achievement. However, the potential increase in the club-level market value and potential future earnings of a player resulting from a strong performance at the FIFA World Cup vastly outweighs the size of such bonus payments, due to the tournament's high profile and 'showroom effect', thereby rendering the bonus payment less relevant in the overall incentive structure. In addition, the intrinsic motivation of the participating players and teams is likely to be high due to the high status associated with advancing far during the tournament. Taken together, the

showroom effect and the high levels of intrinsic motivation ensure strongly aligned incentives among all participating players and teams.

- c. *Finite candidate pool.* A common problem in research on the performance impact of team diversity is that the characteristics of the candidate pool from which diverse team members are drawn is typically unknown. For example, a larger candidate pool is likely to generate better matches between team member abilities and position requirements, improving subsequent team performance, and at the same time produce higher levels of team diversity (as a larger candidate pool is also likely to be more diverse in terms of demographic characteristics and experiential backgrounds). Hence, disentangling the effects of better job-matching processes from the cognitive effects of team diversity on team performance remains a key challenge in future research linking team diversity and team performance. In this study, national team managers face a finite pool of candidates for the national team (i.e. the number of active football players in a country). Hence, we are able to at least partially account for the likelihood of generating better matches between the abilities of candidates and position requirements, as we can control for the size of the national candidate pools from which national team players are drawn.

Other advantages of this research setting include the fact that teams are entirely homogeneous on key demographic indicators such as gender and nationality, and largely homogeneous also with regard to age. This enables us to isolate the performance impact of team members' experiential backgrounds with minimal regard to potential simultaneous influences of other aspects of team members' characteristics. Finally, the teams in our study do not vary in terms of size. Differences in team size is another factor that may influence the effects of team composition on performance in organizational settings, as larger teams have greater information-processing capacity and access to resources.

## **Data**

The FIFA World Cup 2006 consisted of 32 national teams, 31 of which had qualified from one of the six confederations and one automatically qualified host team (Germany). A total of 64 matches were played in order to decide the world champion, meaning that we have 64 distinct match observations and 128 team match results. Performance data was drawn from the official FIFA World Cup 2006 website. Data on the number of active football players per country was drawn from the FIFA Big Count 2006, a survey that FIFA conducted in 2006 among its member associations estimating the extent of football activities across the world.

Detailed individual player data on all 736 players who were selected for the tournament was gathered from the official FIFA World Cup website as well as from the website [playerhistory.com](http://playerhistory.com), which contains detailed career profiles of football players from around the world. To the extent possible, information was cross-checked between the two main sources to maximize the reliability and internal consistency of our data. At the individual level, we gathered data on players' age and national team history as well as detailed data on the players' club-level careers.

## **Variables**

### *Dependent variable*

We employ a performance indicator drawing upon the outcomes of individual matches to measure the performance of national football teams in this study. In order to account for differences in the expected strength of opposing national teams in the measurement of team performance, we use a performance indicator that generates a score based on match results and the historical relative strength of opponents. This is known as an Elo rating system and is particularly effective to produce a ranking of players in two-player games. The football version of the Elo rating system is being maintained on [www.eloratings.net](http://www.eloratings.net) as an unofficial

league table of national football teams (see Appendix A for a detailed description of the Elo rating calculations adapted to football). The main advantage of using the Elo system rather than FIFA's official ranking system to measure team performance in this study is that the Elo system generates a more nuanced performance score for each individual match, including a more comprehensive adjustment for the relative strength of teams and accounting for the exact final score of a match (as opposed to the match outcome in the FIFA system). Hence, relative to a performance score derived from the official FIFA ranking system, our dependent variable is likely to distinguish more effectively between ordinary and extraordinary team performances during the tournament, which is important for the purpose of our study. To mitigate the problem of fluctuating performance outcomes from one match to the next, we use the *cumulative average Elo score* during the tournament as a dependent variable to measure a team's performance following each individual match.

### *Independent variables*

We measure *shared team experience* as the mean number of previous national team appearances of the eleven players that are selected to start a match, which is largely in line with the operationalizations employed by Berman, et al. (2002) and McNamara and Peck (2006). While previous national team appearances do not necessarily overlap entirely for all team members, the overall stock of previous experience playing for the national team is likely to be strongly correlated with the extent to which the current selection of players have accumulated shared experience within the national team.

The *average career diversity* of individual team members is operationalized by applying a formula developed by Bunderson and Sutcliffe (2002), representing the average geographical diversity of the individual careers of the eleven players in a team's starting line-up. The formula is an adaptation of Blau's (1977) diversity index,  $\sum [1 - \sum p_{ij}^2] / n$ , where  $p$  is the percentage of years that player  $i$  has played in country  $j$  and  $n$  is the number of team members.

This measure captures the extent to which the average player of a team has enjoyed a geographically diverse playing career, taking into account both the breadth and length of players' international career experiences.

The *geographical spread of international experience* of a team is a count measure that signifies the total number of countries in which the eleven players who are selected to start a match have gathered playing experience during their careers. Thus, it is a measure of the total number of different national playing styles that the team as a whole has been exposed to during the individual careers of each player.

### *Control variables*

First, we control for the *number of professional football players* in each participating country, drawn from the FIFA Big Count 2006 survey. This serves as a proxy for the size of the pool of national team candidates from that country. To some extent this figure also serves as an indicator of the position of the game of football in national tradition and society, as it represents the number of players that is economically dependent on the sport in a particular country. We also control for the *mean age* of team members in order to distinguish the effect of a team consisting of players that are generally more experienced (i.e. older) from the potential performance effects of shared team experience. Finally, as teams play between three and seven matches during the tournament, we control for the *tournament stage* by introducing a dummy variable for each set of 16 matches in the group stage (matchday 1, matchday 2, and matchday 3), with all teams playing once on each matchday, as well as dummy variables representing the knockout rounds up to the final (matchday 4 to 7).

### **Data analysis**

We analyse our data using a hierarchical ordinary least squares procedure with fixed time effects to account for the seven rounds of play (matchday 1 to 7) at the FIFA World Cup 2006

tournament. As we control for the number of professional players in each country, which is a static variable at the country-level in this study, we do not introduce country-level fixed-effects into our model (in order to avoid the perfect internal correlations that would exist between country-level dummies and the country-level control variable). We account for the repeated observations of teams in our sample by using a clustering procedure (*cluster* in STATA) to obtain cluster-robust standard errors.

To test our hypotheses, we first establish a baseline model (Model 1) consisting of control variables only. Next, we introduce the independent variable *shared team experience* in Model 2 to test the first hypothesis. Subsequently, we test hypotheses 2 and 3 by introducing the two remaining independent variables *average career diversity* and *geographical spread of international experience* in Model 3. We did not detect any substantial multicollinearity issues, as our statistical models generally produce low variance inflation factors that lie within acceptable thresholds.

## RESULTS

Descriptive statistics and correlations can be found in Table 1. The outcomes of the hierarchical regression analysis are presented in Table 2.

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Insert Tables 1 and 2 about here  
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In the baseline model, our data reveals a statistically significant positive relationship between the *number of professional players* in a country and team performance ( $p < 0.01$ ). This

suggests that the size of the pool of national team candidates within a country is positively associated with team performance at the tournament. Furthermore, Model 1 reveals a statistically significant negative association between the *mean age* of team members and team performance ( $p < 0.05$ ). However, this association becomes non-significant in Models 2 and 3 following the introduction of *shared team experience* into the model.

Model 2 does not provide statistical support for hypothesis 1. Contrary to the results of previous studies (Berman, et al., 2002; McNamara & Peck, 2006), we do not find support for a positive relationship between *shared team experience* and team performance in this study. Notably, Table 1 displays a correlation of 0.68 between the *mean age* of team members and *shared team experience*. This suggests that there may be an entirely different set of factors influencing the notion of *shared team experience* in our study, which is set in a project-type setting and where team managers face a finite pool of eligible candidates, in contrast to the empirical settings of the above-mentioned earlier studies. We elaborate further on these differences in the discussion below.

Meanwhile, Model 3 provides statistical support for hypotheses 2 and 3 ( $p < 0.1$  and  $p < 0.05$  respectively). In line with our predictions, the *average career diversity* of team members is positively related to the performance of national football teams, whereas the *geographical spread of international experience* of team members displays a negative relationship with team performance. We discuss the implications of these findings in the subsequent section.

## DISCUSSION

We can draw several key implications from our findings in this study. First, our findings reveal general support for the notion that diversity of team member experiences can have contrasting effects on team performance. Essentially, our findings suggest that team members'

diverse backgrounds enable project teams to build superior intra-team capabilities based on the variety and depth of team member experiences. Meanwhile, excessive amounts of variety combined with a lack of substance may challenge the integrating capacity of project teams, especially in a short-run, high-performance setting like a FIFA World Cup tournament, and impede team performance. Hence, team members with diverse experiential backgrounds need to be managed carefully in order to take advantage of the potential benefits and mitigate the costs.

These findings serve to illustrate the interdependence between the resource-picking and capability-building roles of a project team manager. By picking team members with experiential backgrounds that are both complementary and overlapping in nature, the team manager can effectively facilitate the subsequent intra-team capability-building process. Overlapping knowledge bases among players within the tournament squad enable the project team manager to more efficiently combine heterogeneous resources within the project team, thereby increasing the number of options that the manager can draw upon in the team selection process without simultaneously creating more extensive integration needs.

Second, our data reveals no statistical support for the notion that the longevity of team membership has a positive impact on team performance outcomes in our research setting, in contrast to previous research conducted in non-project-type settings (e.g. Berman, et al., 2002; McNamara & Peck, 2006). At first glance, these findings suggest that the degree of permanence of team membership does not have a decisive impact on performance outcomes in project-based team settings.

However, the context of our study may also offer at least a partial explanation of these outcomes. In essence, high levels of shared team experience in national football teams may reflect a failure to develop new young talent and a lack of team renewal rather than a deliberate choice in favour of high levels of continuity. While club-level teams can manage

succession effectively by making investments in young players from a global talent base and moulding these players into the first team over time, national-level teams are dependent on the emergence of talent from within the national talent pool to replace existing players. If few or no talents of a sufficient calibre emerge, the second-best solution (at least in the short- to medium-term) is to retain the existing players in the national team beyond their prime. This alternative explanation of our findings pertaining to shared team experience suggests that further research is required to develop a comprehensive understanding of the impact of permanence vs. transience of team membership on team performance in project-type settings.

In sum, our findings above suggest that shared team experience may be a particularly effective driver of team performance over time in combination with an ability to conduct conscious succession planning. However, if such possibilities are limited, high levels of shared team experience may rather be associated with inferior team performance as the team renewal process is not functioning effectively. Our findings therefore highlight the importance of succession planning and renewal as a complement to continuity and stability in team composition, and suggest that this is a key feature distinguishing project-type teams from other types of teams. The need to achieve a balance between replication and renewal is particularly pronounced in project-type teams, where differentiation through deliberate replication and renewal strategies is an important source of temporary competitive advantage (Shamsie, et al., 2009).

Furthermore, this study has key implications for team composition and selection practices in the context of professional sports teams. Based on our findings, we suggest that a team manager facing a choice between two or more players of approximately equal ability to fill a specific position on the field ought to consider the experiential characteristics of the potential candidates. While substantial international experience among players appears to be an asset that contributes positively to team performance, the extent to which candidates have

overlapping experiential backgrounds may be another relevant factor to consider in the team selection process, particularly in tournament-type settings where the life span of the team is finite and the capacity to integrate players that are accustomed to a wide variety of playing styles is correspondingly limited.

This study has a few important limitations. First, our empirical setting is limited to a single FIFA World Cup tournament, which may not be representative of such tournaments in general. Future research should investigate whether the findings of this study can be replicated at other (similar) tournaments, or indeed in other team sports settings. Second, our study makes a few simplifying assumptions at the data analysis stage. For example, we have assumed that the eleven players in the starting line-up are solely responsible for the team's performance, omitting i.a. the potential impact of substitutes and the characteristics and experience of the team manager from our analysis. Indeed, McNamara and Peck (2006) show that managerial experiences have a significant impact on team performance in the case of club-level teams. Finally, while we aim to derive implications that are relevant for sports teams and organizational project teams alike in this paper, the link between the characteristics and performance of sports teams and organizational teams has yet to be firmly established in the management literature. Further research is required to systematically address the usefulness of drawing such parallels beyond the rather speculative efforts to date.

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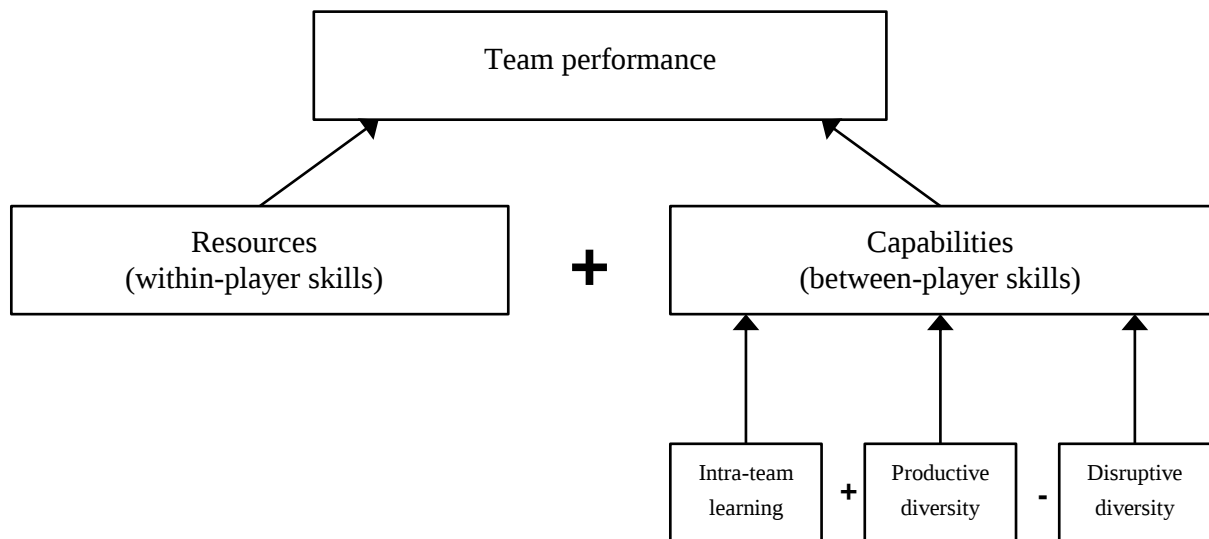
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## FIGURES

**Figure 1: Research framework**



## TABLES

**Table 1: Descriptive statistics and correlations**

| Descriptive statistics and correlations |         |         |        |        |       |       |       |   |
|-----------------------------------------|---------|---------|--------|--------|-------|-------|-------|---|
| Variables                               | Mean    | S.D.    | 1      | 2      | 3     | 4     | 5     | 6 |
| 1. Cumulative average Elo score (log)   | 4.41    | 0.27    | 1      |        |       |       |       |   |
| 2. No. of professionals                 | 2137.80 | 3193.92 | 0.19*  | 1      |       |       |       |   |
| 3. Mean age                             | 28.02   | 1.32    | -0.17  | 0.20*  | 1     |       |       |   |
| 4. Shared team experience               | 46.84   | 12.08   | -0.14  | 0.45*  | 0.68* | 1     |       |   |
| 5. Average career diversity             | 0.29    | 0.17    | -0.09  | 0.13   | 0.36* | 0.26* | 1     |   |
| 6. Geographical spread of int. exp.     | 7.15    | 3.25    | -0.26* | -0.19* | 0.11  | -0.05 | 0.70* | 1 |
| * p < 0.05                              |         |         |        |        |       |       |       |   |

**Table 2: Hierarchical regression analysis**

| Clustered hierarchical ordinary least squares regression models |         |         |         |
|-----------------------------------------------------------------|---------|---------|---------|
| Dependent variable: Cumulative average Elo score (log)          |         |         |         |
| Standardized betas reported.                                    |         |         |         |
| Variables                                                       | Model 1 | Model 2 | Model 3 |
| No. of professionals                                            | 0.20**  | 0.26*   | 0.19+   |
| Mean age                                                        | -0.24*  | -0.13   | -0.13   |
| Matchday 2 (dummy)                                              | 0.04    | 0.04    | 0.03    |
| Matchday 3 (dummy)                                              | 0.03    | 0.03    | 0.04    |
| Matchday 4 (dummy)                                              | 0.18+   | 0.17+   | 0.15    |
| Matchday 5 (dummy)                                              | 0.14*   | 0.13+   | 0.11+   |
| Matchday 6 (dummy)                                              | 0.16*   | 0.15*   | 0.14*   |
| Matchday 7 (dummy)                                              | 0.14*   | 0.13*   | 0.11    |
| Shared team experience (H1)                                     |         | -0.19   | -0.24   |
| Average career diversity (H2)                                   |         |         | 0.27+   |
| Geographical spread of int. exp. (H3)                           |         |         | -0.36*  |
| Constant                                                        | 5.70*** | 5.23*** | 5.39*** |
| R-squared                                                       | 0.146   | 0.161   | 0.213   |
| F                                                               | 2.49*   | 2.52*   | 2.73*   |
| N                                                               | 128     | 128     | 128     |
| *** p < 0.001                                                   |         |         |         |
| ** p < 0.01                                                     |         |         |         |
| * p < 0.05                                                      |         |         |         |
| + p < 0.1                                                       |         |         |         |

## Appendix A: The world football Elo rating system

|                                                 |
|-------------------------------------------------|
| Basic Formula: $R_n = R_o + K \times (W - W_e)$ |
|-------------------------------------------------|

$R_n$  is the new rating,  $R_o$  is the old (pre-match) rating.

$K$  is the weight constant for the tournament played:

- **60** for World Cup finals;
- **50** for continental championship finals and major intercontinental tournaments;
- **40** for World Cup and continental qualifiers and major tournaments;
- **30** for all other tournaments;
- **20** for friendly matches.

$K$  is then adjusted for the goal difference in the match. It is increased by **half** if a match is won by two goals, by **3/4** if a match is won by three goals, and by **3/4 + (N-3)/8** if the match is won by four or more goals, where  $N$  is the goal difference.

$W$  is the result of the match (**1** for a win, **0.5** for a draw, and **0** for a loss).

$W_e$  is the expected result (win expectancy), based on the following formula:

$$W_e = 1 / (10^{(-dr/400)} + 1)$$

$dr$  equals the difference in ratings plus **100** points for a team playing at home.

Source: <http://www.eloratings.net/system.html>

Elo Rating Scores for the individual matches can be calculated as the difference between the new rating and the old (pre-match) rating or can be found on:

<http://www.eloratings.net/world.html>