

# EQUIPPING PROJECT TEAMS TO WIN TENDERS: AN INSIGHT INTO ITALIAN ARCHITECTURE PROJECTS

Beatrice Manzoni<sup>1</sup>, Peter Morris<sup>2</sup> and Hedley Smyth<sup>3</sup>

<sup>1</sup> *Construction and Project Management, Bartlett School of Graduate Studies, UCL, 1-19 Torrington Place, London, WC1E 7HB, UK - SDA Bocconi School of Management, Via Bocconi 8, 20136 Milan, Italy*

<sup>2,3</sup> *Construction and Project Management, Bartlett School of Graduate Studies, UCL, 1-19 Torrington Place, London, WC1E 7HB, UK*

Project group structures are a typical configuration in the architecture industry, used as a way to cope with a dilemma typical of architectural firms, caught between artistic and efficiency drivers. Moreover teams are the mechanism these organisations often rely on to be more effective. Nonetheless, the role of team composition for project performance has not been systematically studied yet. The relationship between team composition and performance in competing for tenders for design in architecture projects is therefore explored, investigating what team composition leads to superior performance and how performance induces feedback on team design. Team composition is seen in terms of members' newness (old-timers/newcomers), nationality (national/international) and reputation (archistars/common professionals), while project's performance in terms of tender's result. Italian architectural competitions and tenders from 2004 to 2008 are used as a research setting. For each team submitting a project to a competition, data concerning performance, competition and team's characteristics are collected and a regression method will be used to analyse them. Interviews integrate the quantitative analysis. At this stage the research is predominantly literature review based but it will contribute to understand whether and how team composition in architecture impacts on tenders' performance. Moreover it will provide a macro overview of the tenders' scenario and of the architects' labour market and it will present a unique insight into the Italian architecture industry.

Keywords: architecture, tendering, business strategy, practice management, project management

## INTRODUCTION

In recent decades the architecture industry has been exposed to changes influencing the complexity of architectural products and profession. In this scenario project based organisations are not only a typical configuration of the industry (Gunnarson and Levitt 1982), but also a way to cope with increasing complexity and rapid changes (Hobday 2000). Therefore, while projects are the outputs, teams are the mechanism these temporary organisations rely on to be more effective (Ancona and Caldwell 1992). Existing literature has, in fact, investigated how not only the individual performance inside the team but also the team performance, affected by its composition, impacts on project success (Guzzo and Dickson 1996). However "results from empirical studies have been inconsistent regarding which composition variables are predictive of team performance" (Bell 2007: 596).

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<sup>1</sup> b.manzoni@ucl.ac.uk

The aim of this research is to explore the relationship between team composition and performance in competing for tenders for design in urban development and architecture projects in Italy. We aim to specify what team composition leads to superior performance and how performance induces feedback on team design.

Following the "leadership perspective" of Kolltveit *et al.* (2007) in project management, we focus on team organisation, leadership and organisational change. This is, in fact, one growing, original and exploitable focus of the contemporary project management literature.

The research will be organised as follows. First we will review existing literature on project based organisations as a way to cope with a dilemma typical of architectural firms, which are caught between artistic and efficiency drivers. Due to these coexisting drivers, architecture often needs and relies on interdisciplinary features, typical also of the actors involved. Interdisciplinary teams are peculiar of project based contexts and organisations and help pursue innovation, manage complexity and cross-functional expertise. Furthermore architectural products result from projects and architecture has been traditionally characterised by project based structures, despite the difficulties the architecture profession seems to have in forming effective teams. Second we will investigate team composition for tenders, especially in terms of presence of old timers and newcomers, international members and archistars. We will analyse whether and how these dimensions influence the proposal's development and presentation and the overall performance, in terms of award outcome. We will present our research setting and methodology: we are building up a data set of results from Italian architecture tenders over the past 5 years (2004-2008) and we will adopt a regression method to analyse it. Interviews will support the analysis.

## **THEORETICAL FRAMEWORK AND HYPOTHESIS**

Architectural firms are service, professional and creative organisations (Winch and Schneider 1993b, Jones and Livne-Tarandach 2008). As service organisations, they are characterised by intangible and heterogeneous products, especially at the competition and tender phases where the output these firms provide is made up of concepts, drawings and feasibility plans, as the design has still to be built.

Architectural firms are also professional organisations, as the access to the labour market and the exercise of the profession are regulated by professional institutions operating at a national level, organising and protecting the profession. Finally they are creative organisations, as private and public clients hire architects to provide novel solutions to spatial problems (Thornton, Jones and Kury, 2005).

This search for originality explains why creative acclaim, rather than business success, is often the major stimulus to practice, to the point that some architectural practices' strategies are driven by the interest in competitions and awards for design, rather than by financial reward and growth (Mintzberg *et al.* 1988, Michlewski 2008). According to Thornton, Jones and Kury (2005), two drivers coexist in the profession: a creativity logic and an efficiency one and a synthesis between these two hybrid vocations is rare, together with an agreement about the profession's core or specialised domain.

Architecture resists a definition of its boundaries and internal specialisation and maintains its eclectic and interdisciplinary features, in relation to strategy, logic, market orientation and actors' responsibilities and roles (Blau 1984).

As many others, architecture is an industry where inter-organisational temporary organisations are used to pursue innovation, manage increasing product complexity

and cross-functional business expertise, reduce risk and deal with complexity and fast changing markets (Hobday 2000).

Moreover architecture has been traditionally characterised by project group structures (Gunnarson and Levitt 1982), and projects are its main 'product' before the buildings are built (Flanagan *et al.* 2005). Blau (1984) describes architecture as involving specialised and interrelated tasks, regularly directed towards single projects. Traditionally regarded as an intrinsically individualistic activity, architecture has a relevant relational dimension, originating from collaborative networks among multiple actors (Yoo *et al.* 2006). Among big companies, the absence, for example, of pure architectural ones emerges clearly at the European level (STD 2006), in favour of interdisciplinary/inter-organisational groups. The precise configuration of project coalitions varies from project to project and depends on the client and the requirements of the particular project. However, architecture projects can be generally associated with a temporary team consisting of on the one hand architects, designers, engineers, quantity surveyors, and other specialists, preparing designs, specifications, and contractual documents (design group); and on the other contractors, subcontractors and suppliers, constructing and financing (constructing group) (Yoo *et al.* 2006, Winch 2008). The best teams comprise heterogeneous competences and backgrounds (Ancona and Caldwell 1992), where heterogeneity is recognised as "the diversity of organisational roles embodied in the team" (Jackson 1992: 353) and is a driver for innovation, renewal and creativity.

However, even where the composition, the relationships and the interactions inside a team are clear, the "selection processes in this sector have frequently focused on organisations' individual professional capabilities rather than on their collective ability to integrate and work together effectively" (Baiden *et al.* 2006: 14). Moreover the industry has shown in the past a limitation in forming effective teams (Evbunomwan and Anumba 1998). But when winning teams have been created they tend to be replicated over the years.

In sum, both the difficulties the industry seems to have in forming effective teams and the gap in the literature about a clear link between team composition and performance in architectural tenders ask for further research. Existing literature suggests that team composition can be looked at from different perspective: members' newness to the industry or to the team, members' nationality and members' reputation. We investigate whether and how these three dimensions influence the proposal's development and presentation and the overall performance, in terms of award outcome and matching award criteria in tenders. While studied separately and in other settings, they seem to have not yet been systematically explored in the architecture industry.

### **Members' newness: old-timers vs. newcomers**

In temporary and project based settings, team members move frequently into new teams among, and in particular, between organisations. The decision on how to form new configurations is particularly relevant (Chen 2005).

Old combinations of members (old-timers) are familiar and routinised and can speed up task execution (Ilgen *et al.* 2005), while new combinations (newcomers) offer novel prospects for creativity and experimentation, together with higher internal and market risks (Jackson and Joshi 2004). In the creative industries, team design has been a recent topic of research. Perretti and Negro (2006) focus on two dimensions of team composition: newness of members and newness of member combinations, distinguishing among newness to the team, to the company or to the industry. In

addition, Soda, Usai and Zaheer (2004) suggest criteria for team composition for optimal performance, which take into consideration both past working relationships among team members and simultaneous links to other projects.

Architecture presents on the one side old combinations of proven firms with a strong track record, and on the other young or untried architects. Proven firms are old-timers for the industry, firms standing at the core of their social field (architecture), having greater exposure and access to sources of legitimacy, but due to this entrenchment in the prevailing conventions, they tend to rely on and remain faithful to their own winning identity. They are either 'strong experience' practices or 'strong ideas' ones, according to Winch and Schneider (1993a). They generally undertake and are preferred for limited competitions, where they get big and expensive projects and ally with other old-timers among property developers and building contractors. On the contrary, young or untried architects, frequently newcomers in the industry, stand at the borders of their social field with less opportunities to get exposed and investing therefore more on distinctiveness in order to gain further on credibility (Jones and Livne-Tarandach 2008). They are 'strong ambition practices' (Winch and Schneider 1993a), who have been typically formed only recently, and are waiting for a first major commission. They generally go for open competitions, which often ask only a design concept and a few boards and they potentially produce more innovation and originality than what can be expected from established designers (Larson 1994). However, these avant-garde architects and "idea firms" enter the limited competitions when clients look for new ideas, and these firms are allowed to enter invited competitions, by pooling their forces with established developers and construction firms. And this might result in a mix between old-timers and newcomers, which can be new for the industry.

From these considerations, we expect differences in team composition when looking at open or limited competitions. Moreover the differences in team composition can be either for the industry or for the team. In addition we expect differences in which old-timers and newcomers will participate.

Hypothesis 1: The predominance of old-timers or newcomers in the team differently influences the choice for the types of tenders (open or limited ones). Old timers preferably go for limited competitions, while newcomers go for open ones.

Hypothesis 2: Old-timers positively influence the performance in limited competitions and tenders for construction, where 'experience' is often the predominant award criterion. On the other hand, newcomers positively influence the performance in open competitions and tenders for ideas, where 'originality' is predominant.

### **Members' nationality: national vs. international**

Until recently most practices have been organised around a local, regional or national framework, but globalisation changed this (Knox and Taylor 2005). The architecture industry has now the choice between different market strategies: regional, national, international, multinational, global and transnational (Girmscheid and Brockmann 2008). Many European countries are all dominated by international practices, thanks to a cultural action centred on the policy of international architectural competitions (Marinoni 2007) and some architecture practices have therefore recently developed a multi-city presence to serve an international clientele.

We expect international teams, whether they have one overseas member, a local branch office or perhaps employees with an international education and professional

experience, to have greater possibilities to win tenders, as “clients aspire to gain status for their project through the involvement of an internationally renowned architect” (Winch 2008: 10).

Hypothesis 3: The presence of international members or national members with international experience in a team positively influences tender performance.

Hypothesis 4: International members, paired with local members in a group, perform better than international or national members standing alone.

### **Members' reputation: archistars vs. common professionals**

Reputation has proved to be critical at organisational and individual level, being a reflection of past performance and consequently a predictor of future performance (Kilduff and Krackardt 1994). In architecture a strong reputation is typical of so called “glamorous signature architects” or “archistars” (Larson 1994, Lo Ricco and Micheli 2003). They are architects, who have, individually, built leaderships and brands and are able to balance credibility and creativity, where credibility is labelled as legitimacy and creativity as distinctiveness (Jones and Livne-Tarandach 2008).

Moreover they seem to be able to positively influence the tender's performance, due to the high symbolic connotation of their work. However their effects on project performance have not been clearly qualified or quantified. There is also no full agreement on the role archistars play in influencing tenders' outcomes and moreover on how much value a ‘big-name’ architect actually adds to a project and specifically to what performance dimensions (Rybczynski 2006). In addition few studies have been conducted to investigate how the success or failure of a project can impact on a firm's competitiveness (Flanagan *et al.* 2005), that means it is not clearly proved that previous successes can influence future performances in tenders.

Existing literature shows that the mechanism for how an architect's reputation can foster bidding competitiveness has not been fully explored. Moreover how much value added a project derives from the presence of an archistar has not been qualified or quantified. Finally there is unproven positive correlation between being an archistar and winning more tenders. Therefore it would be interesting to understand whether and how archistars can make the difference on project performance. Perretti and Negro (2006) also suggest research is needed to compare the impacts of status with those of established measures of team diversity.

Hypothesis 5: Archistars are more present in certain types of tenders: limited ones, where the client can deliberately select for archistars, instead of open ones; and tenders for construction instead of tenders for ideas.

Hypothesis 6: Archistars' presence positively influences performance in tenders.

## **DATA AND MEASURES**

### **The research setting: the Italian architecture's tenders**

Understanding the structure and the dynamics of the architectural and planning services offer is a complex issue, due to the difficulties encountered, especially in Europe, in collecting and assessing data, which are not always available and comparable, and to the diversification of the planning market across countries.

In this scenario, Italy is a relevant research setting, due to its intrinsic contradictions. On the one hand, it is a country with the largest number of architects registered in its professional association in Europe in 2006 (123,000 registrations, meaning 1 architect

registered for every 470 inhabitants against a European average of 996 inhabitants). Moreover with up to 253,000 companies working in the field of planning and technical activities, it corresponded to 33.6% of the European total in 2005 and it presented the largest number of operating units but the lowest average size of company in relation to employees (1.4), being a nation with many small entrepreneurs. Finally, preceded only by Spain, Italy held eighth place in the business of planning services with US 17 billions, compared to the 529 of the entire world. On the other hand, while Italy 'exports' a little, as the dimensions of Italian planning within the international context are modest (STD 2006), it 'imports' a lot, as many Italian municipalities pursue policies of international architectural competitions, opening up to international firms (Marinoni 2007).

The focus of our study is on architectural competitions and tenders. They are both contexts in which architectural practices are invited by a private or public client to submit design proposals – either in open competition or by invitation – for a particular building or master plan. A jury or a panel is appointed by the client to decide on the winning design, which is sometimes awarded the commission for the work. Being commissioned the work is the principal difference between competitions and tenders: competitions have usually no budget for building the project and just look for proposals, while tenders have budget to commission the work.

Project tenders and architectural competitions are a relevant research setting for multiple reasons. First they are "highly institutionalised interaction ritual" (Jones and Livne-Tarandach 2008: 1082) which architectural firms and developers use to secure projects and as a key strategy for building architectural firms' reputations (Mintzberg *et al.* 1988). "Built or unbuilt, the projects ranked in an important competition are published, diffused, examined, discussed, and entered as credits in their authors' resumes" (Larson 1994: 472). Open tenders and competitions are in fact a way to make a name for oneself and, later on, a "name" gets one invited to compete in restricted contests (invited or limited competitions). Second, according to Volker and Prins (2006), design tenders open up great possibilities for understanding the link between the process of designing and managing the design and the added value of the design product. Design competitions have always attracted architects, even more in recessionary times, and this should depend therefore at least partially on something other than the economy (Larson 1994). Competitions are the favourite way for developers to sample styles and select an architect. According to Gutman (1988), with its ritual aspects, architectural competitions, both invited (or limited) but especially open ones, best illustrate the diversity of the architectural field, of the teams participating and of the jury's reading of emergent architectural trends. Third, the mechanism of tenders and competitions intensifies the tension between the definition of the architect whose chief responsibilities are to design and whose goal is creative acclaim, and the definition of the architects whose chief responsibilities are to the client and whose ambition is business success (Blau 1984).

### **The sample**

In order to test our hypotheses, we will analyse architecture projects submitted to Italian architecture tenders from 2004 to 2008. For each project, we are collecting data concerning its tender's performance (being awarded, being selected or getting no awards at all). We are also collecting data about each competition (location, client, target, budget, language, year, etc.) and about each team submitting a project (characteristics of the leading practice, of architects and external consultants).

Data used in our statistical analyses will be from the most important European database providing competition offers and results: Europaconcorsi<sup>1</sup>. Data triangulation will be used, considering also other two similar online databases (Newitalianblood and Archiworld Network). Moreover these data will be matched with the data available at the Provincial Association of Italian Architects and at the Italian National Council of Architects, Planners, Landscapers and Curators. Data about teams' characteristics will be also collected on practices' websites (for age, location and productivity in terms of clients and projects) and on a specific Europaconcorsi's "people" section.

### **Dependent variable: Project performance**

We will focus on the tender's result as a performance criterion, passing up building realisation effectiveness and efficiency as competitiveness dimensions, as the project at the tender phase hasn't been realised yet. We therefore avoid looking at execution and delivery phases and we concentrate on the concept, definition and development ones. We assume that the tender's result (0: no awards, 1: first prize, 2: second prize, 3: third prize, 4: selected) can be considered a measure of the value of the project and comprises the "diversity, inclusivity and complexity of the concept" of performance (Flanagan *et al.* 2005: 990), which is multi-defined, multi-measured, multi-layered and dynamic. Several studies focus, in fact, on the factors leading to project success. The aim is to satisfy the client's needs, related to function, aesthetics, business goals and image (Volker and Prins 2006). In tenders client express their needs by providing an assignment, including the judgmental criteria, to which firms react sending in a concept design. Both parties are willing to create the best match possible.

### **Independent variables: Team composition**

Different measures for team composition have been proposed in the past (e.g. Moreland and Levine 1992). We decide to focus on the following ones.

All the team members submitting a project to a tender are described in terms of their location, age, years of professional practice and productivity (number of clients and projects per year). First, members' newness is measured in two ways for being new to the industry or being new to the team. Newness to the industry is computed considering both the number of years of professional practice and the number of participations to previous competitions. Newness to the team is, instead, measured computing a dummy variable (0-1): 1 if the member has already worked in the past with one or more other team members, 0 if not. Second, members' nationality is also computed considering two measures: we consider their practice's location, which can be local, national, European, international, in relation to the tender's and client's location; as well as the practice's context, if the architect has already built projects abroad and acts, therefore, at an international scale. Finally, member's reputation is computed with the rating provided by Europaconcorsi, while an additional measure could be the number of professional or industry awards already won. This implies looking at specialised and professional journals used by architectural firms to signal their competencies to others in the sector (Salter and Gann 2000).

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<sup>1</sup> Europaconcorsi provides a database of international architectural tenders since 2000, with detailed descriptions for each winning project and many non winning projects and teams. The overall dataset contains 2,500 Italian tenders' results in Italy, related to different categories of projects (culture, museum, education, exhibition, infrastructure, master plan, regeneration, mixed use, residential, retail, office) and to different types (open, invited, with pre-selection based on CVs and portfolios).

## **Control variables**

We will incorporate in the model several control variables, relating to the competition's characteristics.

Tender's type: we propose a dummy variable (0-1), in terms of whether the competition is open or limited. If the competition is open, everyone can participate and we expect either proven firms or young untried architects. If the competition is limited the client usually prefers to invite few proven and desirable practices.

Budget's attractiveness: we refer on the one side to the prize and on the other to the amount of works, in case a contract for constructing the winning project is signed. We expect old-timers practices to be less interested in tenders with no budget for works. The higher the budget is the more attractive a tender is.

Client's reputation: clients can be public or private. Their reputation is a matter of credibility and creativity. Credibility is computed through two measures: the number of tenders previously held and the percentage of tenders with a budget for works. An additional measure could be the percentage of tenders which led to real projects.

Creativity refers to the quality of the architecture required or produced in the past, whose measure could be the number of projects' quotations in specialised journals.

## **DIRECTIONS FOR RESEARCH**

The role of team composition for project performance has been recently studied in different creative industries (Perretti and Negro 2006, Soda *et al.* 2004), while it has not been systematically explored in architecture and the industry seems to miss either a theoretical background or an empirical test for this argument.

Therefore, a first contribution of this research will be to understand whether and how team composition in architecture impacts on tenders' performance. Future directions for this research could be to link specific team composition's characteristics to different contributions to the project success and to different award dimensions. This research could be expanded splitting tender's performance into "creativity" vs. "efficiency" performance and investigating what are the team's characteristics impacting more on one dimension or on the other.

A second contribution will be to provide a unique insight into the Italian architecture industry, integrating existing but dispersed data set about results. Notwithstanding the recent availability of data about tenders in Italy, this setting has not been systematically studied yet. The tenders' business has, in fact, only recently become well structured as well as the availability of information on them.

The quantitative analysis will end up with a macro overview of the tenders' scenarios and of the architects' labour market as well, if we consider that tenders represent a great part of the architects' work. However, we plan to integrate information from the data set with qualitative interviews with different projects' team members (architects, contractors and developers), industry's relevant experts (academicians) and local stakeholders (clients, local institutions and communities). They will be useful to set up the research context, support the hypothesis and interpret the findings. In addition to that, we plan to select from the data set relevant projects and related teams and to build up case studies.

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