WORKING TOGETHER? INTERACTIONS OF PROJECT MANAGERS WITHIN ADHOCRATIC TEAMS

Brian Mitchell, MPM, PMP, LEED AP
Pivotal Projects Inc.

ABSTRACT
Communication within and between project team members can affect quality of work and productivity of teams. This is particularly the case where "ad hoc" teams previously unknown to one other or who are employees of another company are required to work together on a project, as in the building industry. Most building-industry project teams are temporary, and may therefore be considered "adhocratic teams." Positive working relationships of these teams is vital because failure of team vision and cohesiveness can undermine successful project completion. These adhocratic teams can suffer from more than the normal stresses caused by project pressures and unclear communication. They often are subject to hierarchical power structures and professional attitudinal barriers derived, in part, from two distinct approaches to project realization (Design-Bid-Build, where the architectural firm coordinates and subcontracts the consultants, and Design-Build, where the owner or project manager contracts the consultants) that can separate the professions, cause animosity and undermine overall team effectiveness.

In both these project delivery contexts, the project managers' interaction styles can significantly affect the productivity and success of the adhocratic teams. Regular and high-quality communication between managers and their teams and within the teams themselves is vital to the effectiveness of the working relationships and success of the project. The style of interaction used to manage and motivate such extended teams is generally not a subject of much debate in practice, though it is a matter of concern in the academy. In the field, awareness of both the potential stresses caused by hierarchical power struggles and the expectations of project managers and team members is critical. Indeed, flexibility and responsiveness to the needs of the team requires a sensitivity to the project context as well as to human and social dynamics. Given the importance of sensitive interaction in ad hoc building-industry teams, this study was conceived to inquire into the nature of these interactions among project managers currently working in the field.

This study focused on developing an understanding of the ways which practicing project managers perceive their interaction styles with internal team members and with external specialist teams in both project delivery approaches. The study also sought to determine if there was a correlation between internal and external interaction styles and whether there was a preferred project delivery method. In order to do this, a small, non-random survey of project managers (n=20) in various disciplines was undertaken. The managers were asked about the differences in styles of management and communication they used with their own teams and with external teams they worked with. They were asked about their perceptions of interaction styles of other team leaders and members they worked with. Finally, they were asked about their preferred project delivery method.

Results of the survey showed that the majority of respondents believed they were using an approach that combined analysis (focused on evaluating work outputs) and positive feedback (evaluating and critiquing team member performance) as their principle management style with

both internal and external teams. The survey suggests that respondents believe this balanced management approach is an ideal combination because it monitors work completed while acknowledging and praising the contributions of individual team members. However, when asked about their perceptions of the interaction styles of other members of the adhocratic team, they asserted that analysis was the more prevalent management style. The survey also revealed that the respondent's profession influenced his or her perception of which approach to project realization was the most beneficial. Architects preferred Design-Bid-Build as it places them in the lead management role, whereas engineers preferred Design-Build because it gives each profession roughly equivalent management authority in the project.

Analysis of the results also suggests that, in the building industry, the segregation of expertise into the various contributing professions has resulted in a deeply rooted culture of competition, even of animosity, among the various members of adhocratic teams. This may explain the prevalence of the perception that analysis of work output is the predominant management style practiced by others in adhocratic teams. Further research into the nature of this interaction would serve to test the results presented here. In addition, interactions with client groups might usefully be investigated as would power dynamics within the hierarchical structure of the consulting in the building industry.

INTRODUCTION

The building design industry is a highly complex environment. A group of professional companies are assembled into a temporary team to design a new building or renovations to meet a Client's needs. Highly specialized professionals have to interact effectively within the team for a successful project. The discipline project manager has dual responsibilities for managing their own internal resources and interaction with external team members. In this environment, complicated by highly specialized subject matter, how the interaction is framed and perceived has a bearing on individual discipline performance, and thus successful project delivery.

THE ORGANIZATIONAL CONTEXT

The raison d'etre of a building design industry team is to design and then have constructed a unique project for a client. The traditional form has a lead consultant and many sub-consultants in various areas of expertise. The traditional leader of building design teams is the architect, although depending upon the project, any of the professional disciplines could be the lead consultant.

Mintzberg (1980) defines an Operating Adhocracy as a project situation as where "*the innovation is carried out directly on behalf of the clients, as in the case of consulting firms, advertising companies, and film companies.*"

In the context of Mintzberg's organizational definitions, the building industry project team as a whole can be considered an "operating adhocracy" consisting of "professional bureaucracies". Each firm's project team is lead by a professional, usually the "partner in charge" or "project manager" who is responsible for the overall design content and exercises authority in the respective specialty.   Core teams for each discipline usually remain intact throughout the project, with other resources being used as required. Direct reporting positions below the project managers are generally skilled workers to design and document the project. Within this structure, the informal lines of communication and responsibility for documentation and co-ordination of work function similar to a matrixed functional organization. Relationships that occur between the

co-ordinating parties, be it principle firm A to principle firm B or a technician firm C to principle firm A are all a part of this study as the inter-relationship between the consultant firms are complex, but the approach of the firm is generally consistent vertically within the organization.

ENVIRONMENTAL CONTEXT

The building design industry environment is complicated due to specialization of knowledge to design the constituent parts and systems of modern buildings. The high level of specialization requires specific systems to be designed by subject matter experts. Architects design the building envelope and interior fitments. Structural engineers design the supporting structure. Mechanical engineers design plumbing, heating ventilation air conditioning (HVAC), and fire suppression systems. Electrical engineers design lighting, power, communications, and fire detection systems. Specialty designers may carry out the interior design and commercial kitchen/servery areas. Specialized vertical "knowledge silos" within the adhocratic team structure have created a situation where the conduct of projects is similar to a departmentalized functional organization. Contractual obligations bind the team members together, but each discipline is responsible for their designed systems.

The building industry encompasses diverse levels of use, quality, and cost for projects. The project team relationships examined in this study are characterized as being larger, moderately to highly complex Industrial/Commercial/Institutional (ICI) type projects.

The ICI building sector favours two main types of project execution models; Design – Bid – Build (DBB) and Design/Build (DB).

DESIGN – BID – BUILD

This model is the traditional project delivery model and results in a highly defined project scope where the product of the project is usually a specialized use or open to a public bid process. The prime relationships in this delivery model evolve through time. During the design period, the consultant team is hired to provide a design to satisfy the Owner's requirements and provide documentation for a third party to construct the project. After the contract for the construction is let to the successful bidder, the relationships of all the team players change. The consultant team then acts as the Owner's agent but also as the "fair arbiter of the contract" between the Owner and Contractor. The Consultant is not contractually obligated to the Contractor nor visa-versa. The result is that one part of the project team which is mandated to ensure quality of the work is policing another team member organization that perhaps has no mandate for quality.

DESIGN/BUILD

This model is for either for projects which are less defined such as a speculative building for leasing, or projects that have time constraints upon their completion. Private/Public Partnerships (3P) where a private company or project team/group designs, builds, and then maintains the facilities for a period of time could also fit into this category. This model is especially well suited to "fast-track" projects where design of the interior spaces may not be defined when the walls and roof are being constructed. Relationships in the design/build method generally stay stable through planning and execution of the project. Each team firm can either be contracted to the Owner directly or hired by the construction firm who won the contract. The consultant team

members and the contractor proactively work together to provide the Owner's scope of work which will meet the budget goals of the project.

The main difference between the two models is the relationship between the contractor and consultant during the execution phase. Design – bid – build is usually an adversarial relationship consisting of checks and balances based upon the construction documents. Design/build is more of a co-operative process where trade-offs based upon time/cost/quality are made to meet the Owner's cost or time constraints.

SURVEY GOALS AND METHODOLOGY

The goals of this survey were to find:
- How project managers in a building design team interact (managed) their internal team members.
- How project managers in a building design team interact with team members outside of their firm.
- Is there a correlation between internal and external interactions?
- Is there a favoured project delivery method?

A survey was distributed to project managers in architectural, engineering, interior design, specialty consulting firms, and project management companies. The questionnaire was in three sections. The first was general information concerning the discipline type of firm the respondent operated within, relative position of the respondent, and position of the firm within the consultant/sub-consultant hierarchy. The second section addressed how the project manager interacted with their internal team. Section Three dealt with respondent's interaction with the external adhocratic project team, and which interaction style leads to project success. Section three also asked which project delivery model was preferred. The surveys returned completed realized a response rate of 56%.

The semantics of the survey are as follows:
Analytical: The majority of the interaction was analysis of the product or output (design) of work for individual or firm. Praise or negativity of performance or positive feedback was the minority of the interaction.
Balanced: The interaction was balanced between analysis and praise/positive interaction.
Praise/Positive: The majority of the interaction was positive or praise oriented for individual or firm performance.

INTERNAL TEAM INTERACTION STYLE

When dealing with internal team members, should a project manager analyze the majority of the time, praise the majority of the time, or should it be a combination of both? What are the other factors that affect how the interaction takes place?

Survey respondents identified usually there is a mix of motivational factors in the employees they supervised. Intrinsic motivation as Amabile (1998) notes comes from within and "When people are intrinsically motivated, they engage in their work for the challenge and enjoyment of it. The work itself is motivating.".   Those who are extrinsically motivated tend to do things to better their position or pocketbook, or to avoid a certain penalties. Amabile (1998) notes that this is the

"carrot or stick" approach. The survey found that the project managers considered the people that they supervised to be approximately average of intrinsically motivated employees as approximately 65% and the average of extrinsically motivated employees as approximately 35%. Respondents said that intrinsically motivated employees respond better to both praise and analysis compared to their extrinsic counterparts.

Amabile (1998) also states that monetary rewards doesn't necessarily stop people from performing well, but sometimes doesn't help the situation either. The respondents considered monetary rewards increased productivity almost 4 to 1 over those who thought money did not increase productivity.

In the Failure Tolerant Leader, Farson and Keyes (2002) state that approach should be one of "Don't Praise, Analyze" so the project manager should be spare with compliments and analyze the results only. They postulate that managers should avoid giving praise or criticism and take a non-judgmental role. Research they cite notes praise or rewards given can then cause loss of interest in the task or job, or if usually given but withheld, can result in demotivation of the individual.

Of the respondents, 75% tried to balance praise and analysis of their directly supervised employees and 20% stated they utilized a majority praise approach. Only one said they offered only analysis in their interactions with their employees. Although 75% of respondents said they balanced their feedback between analysis and praise, when asked what type of interaction employees respond better to, a balanced approach fell to approximately 63% and praise climbed to 37%. This result may well be rooted in the professional practice guidelines and liability insurance requirements for detailed analytically-based review of design work and documentation within the disciplines to ensure correctness and due diligence.

The interaction style that Project managers seek to use internally is balanced between analysis and praise/positive feedback.   The study sample group noted that their employees respond better to a balanced approach by the project manager. When managing their employees, management styles are tailored to fit the employee or situation 70% of the time. It was not ascertainable in what situations the project managers would move out of balance towards either praise or analysis when they modified their interaction style with employees, but one can infer from the results that individual employees or special circumstances dictate such modification of interaction styles.

EXTERNAL TEAM INTERACTION STYLE

Within individual organizations in the building design adhocracy, it was shown that project managers seek to balance their interaction between analysis and praise. How these same managers then interact with adhocratic team members from other firms and how did the project managers perceive that others dealt with them?

Moore and Dainty (2001) called for change in how UK Design and Build projects were executed because of intra-team boundaries due to inhibitors that are were professionally based and reinforced the traditional hierarchical structure of the design team, roles, responsibilities, and power dynamics. In the supposed more innovative design and build industry, Moore and Dainty (2001) found that "cultural non-interoperability" inhibitors that can be seen in traditional design/bid/build projects is present and effecting the efficacy of the design and build industry.

The professional attitudinal barriers that cause sub-optimized team performance studied by Whyte and Edge (1999) when they studied how educational institutions created dissonance between the professions by how they taught their students. Whyte and Edge found that the attitudes of the group of Architectural and Quantity Surveying students held towards those in different disciplines worsen from the start of their education to the end of their programs. From this we can infer that the cultural differences between these highly specialized professionals are present from the moment they begin their careers.

In the building design industry, achieving a "Real Team" or even a "High performance team" as defined by Kaztenbach and Smith in the Wisdom of Teams (2003) is extremely difficult. The best and most encompassing description of the general state of building design project teams found is from El-Bibany and Paulson, (1994):

> "The relational competence of a building team is particularly difficult to achieve because building projects involve design and construction processes, which are necessarily multidisciplinary. Teams typically comprise of specialized design, knowledge experts, manufacturers, and contracting firms, each of which has it's own goals and agenda, which are not always aligned. It's members are usually not fully committed to the benefits of co-ordinating design and do not necessarily share a common organizational goal."

Therefore, project "teams" can sometimes be best described as a "working group" of individuals from each participating firm. Within each firm, there can existing a "real team" or even a "high-performance team", but whether that can be carried forward into the overall adhocratic structure of the team as a whole is worthy of study outside this paper.

Dovetailing into professional design process theory is the management literature on how to manage teams. In the Wisdom of Teams, Kaztenbach and Smith (2003) characterize teams from working groups at the bottom of the performance scale to high performance teams at the top of the scale. Smith, Harris, Myersclough and Wood (2000) studied what separates teams from being working groups and high performance teams. Smith, Harris et al found that if all other factors are relatively equal, the one over-riding factor that separated the real teams from high performance teams was the presence of an effective feedback loop within a high performance team.

Because the adhocratic building design industry consists of vertically specialized professionals, there are two challenges; how to interact while managing internal team resources, and how to interact with external team members.

The survey asked a number of questions about the interaction between:
- Project managers in the same relative position in other team firms.
- Project managers and those who are not the designated project manager but in a relatively equal position in team member firms.
- Those in higher relative positions in the project team.
- Those in lower relative position in the project team.

The survey also asked about the interaction in the traditional design-bid-build and the newer design/build delivery models to ascertain whether the landscape of building design is being impacted by changes in the industry. The survey also asked which model the project manager preferred.

TEAM INTERACTION

Project Manager to Project Manager
The project managers responded that 65% tried to balance analysis and praise/positive feedback, 30% used analysis only, and 5% used praise only. The project managers perceived that approximately 65% of their counterparts provided only analysis and the remaining 35% of interaction was balanced.

Project Manager to "same" level staff in other Firms.
Often in the project context, one deals with a person who is at the same relative level as a project manager, but who is not the team lead or point of contact for the team company. The results indicated that project Managers attempted to use a balanced interactional style 55% of the time, analysis only 25% of the time, and a positive interaction style 20% of the time. Project Managers perceived that their colleagues used balanced interactions 58% of the time, analysis only 325, and positive only 11% of the time.

Project Manager to higher relative positions.
Project managers reported that the majority of those in higher relative positions choose analytical interaction with them versus Project managers who choose a balanced approach with the higher relative positions. Project managers attempted to use a balanced approach 55% of the time, analysis 40%of the time, and positive interactions 5% of the time. Project Managers perceived that higher relative positions within the adhocratic team interacted with them in a balanced manner 40% of the time, used analysis 55% of the time, and positive 5% of the time.

Project Manager to lower relative positions.
Project Managers self-perceived interaction style with those in lower relative positions, or technical positions, were 60% balanced, 20% analysis,, and 20% positive. The return interactions they perceived to receive from those in lower relative positions were 37% balanced, 40% analysis, and 26% positive.

Project Success based upon interaction environment.
The vast majority of respondents, 91% in fact, stated that projects their companies were involved with were successful in an environment that is balanced between analysis and praise. Only 9% of respondents preferred a majority analysis environment. Individually, the number of people who perform better in a balanced environment dropped to 70% and praise being the better performance environment rose to 25%.
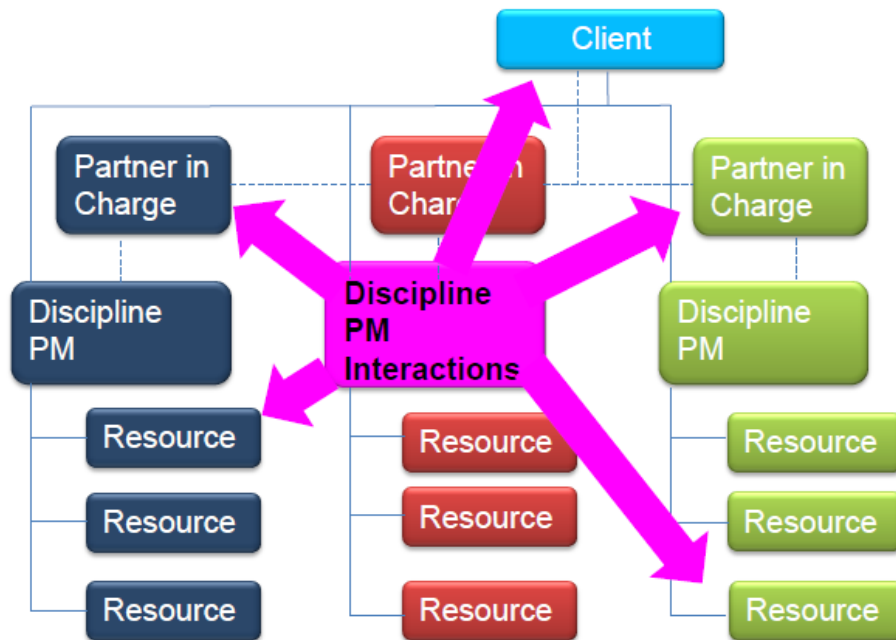
Figure 1 – Communication & Interaction Model for an adhocratic team

Project Delivery Model Preference

Of the 10 architects, only one preferred the design and build delivery model versus design/bid/build or traditional model. Of the engineers in the study, 5 preferred design and build, 2 preferred design/bid/build, one had no preference, and one did not respond to the question. Almost 75% of respondents said analysis is far more prevalent in the design/bid/build model. The design and build model was almost evenly split at 40% analysis and 45% balanced interaction. A large shift in the style of interaction appears to happen when the traditional delivery structure; thus the more traditional hierarchical power structure; is not used.

Project Interaction Model Preference

Asked which interaction style they preferred, 80% of the project managers chose a balanced analysis and praise/positive environment. This result corresponds to the answers for which environment does their company perform better within.

COMMENTARY

The sample group was wide and varied across the building design industry and included participants from architecture, engineering, interior design, and specialized building design consultants. When managing internal resources, the majority of the sample group used an approach balanced between analysis and praise, but also the majority of them tailor their interaction style either all the time or in situations where performance is critical. Most employees supervised by the sample group of managers were shown to be intrinsically motivated. Intrinsically motivated employees were noted as responding to analysis better than those

extrinsically motivated which explains the balanced approach to managing shown by the project managers.

The way the respondents interacted with others in the adhocratic team also seemed to follow the balanced pattern, but it was a slightly smaller percentage compared to the internal team with the difference appearing to swing towards analysis. The majority praise option was not really pursued by the project managers, but was perceived as being utilized in a meaningful way by staff in other team organizations that were at a lower relative level. This result may be attributed to the relative hierarchy of power in the consultant team where those with less power are more complimentary to those in a higher relative position.

With the exception of interaction with a professional at the same level as the project manager, but not the adhocratic partner's project manager, where the results of the interaction were almost identical in interaction styles between individuals.

When dealing with a person of higher relative authority, the project manager's balanced approach was met with perceived majority analysis from the other. Thus, the fact that the project manager will be generally dealing with a more senior professional in this case appears to re-inforce the professional "noblese oblige" or traditional hierarchical power positions where the more senior people, regardless of discipline, tend to think that they are in a "teaching" position for staff which are junior to them in experience or age.

Project managers informally deal with adhocratic partner's lower relative position staff for issues such as co-ordination, construction review, etc. during a project. The sample group stated that 60% used a balanced approach with other firm's lower level staff members, and the remainder equally split between majority praise and majority analysis. The way the project managers perceived they were being interacted with by lower level staff was much closer in variance with balanced being 37%, analysis being 40%, and praise being 23%. The surprising aspect of this result may be explained that the majority of the "lower" position interaction is carried out during design team review where the lead consultant is in charge of the review and therefore the hierarchical power structure may code the responses. Of those who reported perceiving majority analysis from lower level team partner staff, 6 of the 7 were architects.

The remaining category is perhaps the most important, how project managers interact with the adhocratic team partner project managers. There was an inversity in the results in that 65% of the sample group tried to interact with a balanced approach where 30% used majority analysis. The sample group perceived that 65% of their counter-parts used majority analysis where 35% used a balanced approach.

Engineers appear to prefer the design/build method where they are in a less disadvantaged position in relative power versus the traditional hierarchical design/bid/build framework. This is not to say that there are not attitudinal barriers between professions in the design and build sector, but judging by the responses the engineering profession appear to consider the design/build project delivery model a more level power plane.

CONCLUSION

Design professionals in the building industry have to deal with a very complex communication network when carrying out their work in the adhocratic team setting. The majority of project managers surveyed attempt to balance praise and analysis, but the results showed that the majority of the time they are perceived as using the negative connotation of analysis only. The perception of others using only critical review or interaction can lead to negative feelings amongst the adhoctratic team members, and ultimately to sub-optimized team performance. In the extreme, this could lead to project failure.

It is clear the way in which project managers communicate with each other does not reinforce successful project completion. Whether it is the hierarchical power structure of traditional project delivery methods, or the professional perceptions of project managers that are deeply rooted in their outlook of other types of professionals may warrant further study, but project managers do not appear to be able to interact with one another in a manner that fosters true project success. Understanding more about how communication is perceived may allow modification in interaction styles that could lead to an increase in successful project delivery in the industry.

LIMITATIONS OF THE SURVEY

This survey asked how project managers interacted internally and externally within their firms and within the broader adhocratic project team. Interactions with the Client group was not considered. The issues of power dynamics within the hierarchical structure of the consulting industry was not addressed in depth, although some inferences can be made from the results when dealing with those in same, higher or lower relative positions.

REFERENCES

Amabile, T (1998). How to Kill Creativity, Harvard Business Review.

El-Bibany, H. and Paulson, B. (1994). Collaborative Knowledge-Integration Systems: A Tool for AEC Design, Management, and Coordination, Microcomputers in Civil Engineering, Vol. 9, No. 1.

Gupta, A. and Singhal, A. (1993). Managing Human Resources for Innovation and Creativity, Industrial Research Institute Inc.

Farson, R and Keyes, R (2002). The Failure Tolerant Leader, The Innovative Enterprise.

Mintzberg, H., A Structure in 5's, A Synthesis of Research in Organization Design, Management Science March 1980 vol. 26 no. 3 322-341.

Kaztenbach, J and Smith, D (2003) The Wisdom of Teams, Creating the High Performance Organization, Collins Business Essentials.

Moore, D. and Dainty, A. (2001). Intra-team Boundaries as inhibitors of performance improvement in UK design and build projects; a call for change, Construction Management and Economics.

Smith, D., Harris, M., Myersclough, P., and Wood, A. (2000). Building Highly Effective Information Systems Project Teams: An exploratory Study, Proceedings of PMI Research Conference.

Whyte, A.and Edge, M. (1999). Inter-Disciplinary Professional Education: Addressing the Uncertainties of Worth and Structure, School of Construction, Property, and Surveying, Faculty of Design, Robert Gordon University.