THE POWER-BASED PROJECT LEADERSHIP APPROACH
Power-based project leadership

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ABSTRACT
The concept of leadership inevitably concerns power structuring in which power is distributed unevenly between individuals in the project team. Power, in its diverse guises, combines interpersonal and structural elements and may be enhanced through political manoeuvring. This paper develops a power-based model of project leadership underpinned by the culture of harmony and discusses appropriate methodology for testing the construction enterprises in China using social network analysis. The model also postulates that the motivational function of good leadership operates through managing power gaps by means of power-sharing and power-amassing. Such postulation is supported by the Chinese philosophy of yin-yang dichotomy, i.e., the holistic leadership approach is exemplified in maintenance-oriented and performance-oriented leadership where one does not exist without the other and together they imply unity.

Keywords: construction, culture, harmony, power, leadership.

INTRODUCTION
Project management devotes attention to both the formal (hard) system of rules and procedures, and the potential informal (human) system of motivation and leadership in order to maximize the probability of achieving a successful project. In essence, the wielding of power in the project organisation is dependent on the informal system but operable within the framework of the formal system based on the concept of ‘structuration’ [Giddens (1984), Barbalet, (1987)]. That is, the focus upon the notion of power involves control over resources [Foa and Foa (1974)] – especially, finance – and a typology of six types of resources, i.e., status, information, money, goods, love and services, is present for transmission from one individual (social actor) to another. Thus, the desires and needs to control behaviour (e.g. financial rewards is exercised to ensure certain performance outcome) gives rise to considerations of structuring and exercise of power.

This paper discusses the development and testing of a power-based model of project management using the social network analysis (SNA) approach.
POWER-BASED PROJECT LEADERSHIP

If leadership concerns the ability to influence the behaviour of others to (more) accord with the desires of the leader and headship is identified to involve the imposition of such behavioural modification, then it is apparent that both concern interpersonal relationships and, therefore, regarding pursuit of goals, involve power. Progression in leadership research essentially retains the bi-dimensional perspectives of people-orientation and production-orientation [Likert, (1961), Misumi, (1985), Blake and McCanse, (1991)] and the importance of leadership and power disposition in the project organisation is apparent as the focus of people in project management comprises two elements. First, their being the driver of activities through having needs made effective in different ways, most usually through conversion into demand. Second, their being the only active resource, whether as decision makers (mental activity) or as operatives (functional decision executors; physical activity). Callon, [Law and Rip (1986)] suggest that power structures can be mapped from determining how agents translate phenomena into resources and, thence, into organizational networks of control, alliance, coalition, antagonism, interest and structure – i.e., both negative (need to be controlled) and positive components of power.

[Burns (1978)] distinguished transactional leadership (mutual dependence in an exchange process) from transformational leadership (motivate followers via engendering strong vision, mission, emotions and identity). Transformational leaders appeal to followers’ ‘higher ideals’ to upwardly transform performance. The approach is emotionally charged and so, often, is related to charismatic leadership (Kreitner and Kinicki, 2001). Some argue that empowerment is the root of organisational effectiveness, especially during times of transitions and transformation and that the more productive forms of organisational power increase with the leaders’ sharing of power and responsibilities with subordinates [Kanter, (1979, 1983)]. [Fiedler, (1967)] encapsulated the ideas in that the leader’s ability so to act depends on the group task situation and on the extent to which the leader’s personality and behaviour fits the group, i.e. the critical dimensions are position power, task structure and leader-follower relations. The manner of using the position power and delegation/control of the tasks to achieve goals are at the leader’s behest. In processes like the realization of construction projects, power structuring is dynamic and so, the shifting multi-goal coalition which results reflects the changing power structure of the main actors [Walker and Newcombe, (2000)].

Persons in strong power positions may choose to persuade to influence the actions of others rather than command. Indeed, the manner in which a person behaves may be of greater impact on the outcome than the formal attributes of that person’s position in an organization. Hence, leaders motivate, not merely instruct. [House, (1971)] developed a motivation oriented contingency theory of leadership as a path-goal approach. Path-goal motivation asserts that people perceive that increased effort produces increased output for which rewards will be given which the people desire. Such expectancy theory variables are supplemented by situational factors (characteristics of followers and the work environment) and leader behaviour (categorised as supportive, participative, instrumental [or directive], achievement-oriented). As the formal leader of the team, the project leader is legitimately conferred with the formal power concomitant with his/her occupation of the managerial position—positional power [French and Raven, (1959), Mintzberg, (1983)]. However, [Rudolph and Peluchette, (1993)] believe that, as a project becomes
increasingly complex, both project leader and project members may feel pervasively more powerless (see also Conger 1989) as a result of a widening gap between the amount of power granted by the position and that actually required to get the job done. The project leader may have to proactively bridge the power gap through power sharing/empowerment and power amassing.

CONCEPTUALISATION OF A POWER-BASED BEHAVIOURAL MODEL

Behaviour – to – Performance – to – Outcome

Performance in the context of project procurement is a result of the Stimulus-Organism-Response (S-O-R) cycle, a fundamental concept in the cognitive psychology approach [Tolman, (1926), Naylor, Pritchard and Ilgen (1980)]. Project performance is brought about by the project team’s adoption of (certain) behaviours that leads to performance outcome [see Liu and Walker (1998) for detail]. The aggregate of project team members’ behaviours (the acts of choice made through judgement and decision making) creates projects (products) as a result of carrying out the acts, of which performance could be evaluated within a behaviour-performance-outcome model (fig. 1).

Fig. 1 Project leadership behavioural model

In fig. 1, the S-O-R cycle operates as a result of the stimuli (S) exerted by environmental factors on the members of an organization (O) who then make a response (R). The consequences of the acts are fed back to the individuals and the environment in the form of new stimuli. The important point is that each organism follows the S-O-R paradigm with its own feedback loop, and the responses of one organism form part of the stimuli for the other.

Furthermore, the environment is a (collective) ‘organism’ which is composed of a number of people (such as the project organisation in which the project leader is part). The environment is regarded as a system that acts very much like an organism in its own right, i.e. it is a system possessing the same primary mechanisms as the individuals [Naylor et al (1980:23)]. Hence, the organisation is also a responding entity. Take the case of the project organisation in fig. 1: stimuli impinge upon it, some of these stimuli are perceived and processed and the project organisation produces responses (such as increased effort in
enhancing performance). The project organisation and the project leader within it are interrelated while both are active entities in their own right. They are two interacting systems and influence each other dynamically. ‘Both show the S-O-R pattern, but the responses of the environment are a major component of the stimuli of the individual, and the responses of the individuals are a component of the stimuli of the organisation’ [Naylor et al (1980:25)].

General characteristics of project organization

Project organizations are usually more complex compared with other kinds of organizations. According to [Cheng (1997)], the complexities shown in the following aspects:

1. Contract-based temporary organizations or shifting multi-goal coalitions called by Newcombe (1994). Project participants include clients, consultants, project managers, designers, contractors, subcontractors, and material suppliers; and construction project organizations are formed based on the contracts between these participants. After a construction project is completed, the life of the organization for this project is also ended.

2. Multi-discipline. There are numerous disciplines that are involved in construction, such as management, architecture, structural engineering, electrical engineering, quantity surveying.

3. Closely environment-related. Many external forces such as economic and political forces may significantly affect construction projects [Walker, (2002)] and sometimes a key external factor even determines whether a project can be made successful.

Empowerment and leadership

Typically, interdependencies are involved in the project management system; such as between design consultants in the exchange of (interdependent) information to facilitate completion of a design or between leader and follower – the former providing resources to facilitate task execution and the latter to work efficiently and effectively thereby reflecting the leader’s role and abilities. Power imbalances are not always equalised, and, generally the greater the dependency, the greater the power of the agent. Emerson’s (1962) model of social exchanges via analysis of power differentials and dependencies between people provides a basis to understand the project organisation as a shifting power-based multi-goal coalition.

Power may also be seen as potential in that it need not be exercised by the agent (power holder) explicitly; however, like potential energy, the power exists and only awaits realization through being acted upon by targets. What is quite clear is that power is a combination of inter-personal and (organisational) structural factors and so both need to be examined in order to gain an appreciation of the power distribution. Thus, it is likely that political activities are important in power distributions and the exercising of such power – through forming (temporary) coalitions etc. Thus, ‘organisations may be seen as a plurality of power holders’ [Arslan, (2001)].
Sources of power have been examined by many researchers, e.g. [French and Raven, (1959)] but the dichotomous classification of position power (derived from the person’s post in the organisation) and personal power (determined by the individual’s personal attributes) [Bass, (1960), [Yukl and Falbe, (1991), Bass and Avolio (1994)] is more appropriate for project organisations. Position power is determined by organisational structure and how that structure is made active by delegation. If decision-making is delegated, then so is (position) power; but if authority to follow routines is delegated, the position power of the agent and of the target remain unaltered [Barnes, (1986)].

The empowering leaders share a strong underlying belief in their subordinates’ abilities, as supported in the Theory Y argument [see McGregor, (1960)]. Since bureaucratic environments are known to create conditions of powerlessness (Block 1987) and authoritarian management styles can strip away subordinates’ discretion and, in turn, a sense of power [Conger, (1989)], certain leadership styles (which tend towards headship) have a stronger bearing on the subordinates’ sense of powerlessness. The dichotomy posited in performance- and maintenance-oriented leadership implies that the former is the function which contributes towards goal achievement or problem solving, and the latter is that of promoting a group’s self preservation or of maintaining and strengthening the group process itself. Any leader will possess a combination of performance- and maintenance-oriented qualities [Misumi, (1985)] but the relationship (maintenance)-orientation, rather than the performance-orientation, aspect of leadership may have more effect on a leaders’ readiness to empower.

Empowerment is the act of strengthening an individual’s beliefs in his/her sense of effectiveness – a process of changing the internal beliefs of people [Conger and Kanungo (1988, 1987)] or self efficacy [see Bandura, (1986)] on social cognitive theory for self efficacy) and may lead to increased motivation, productivity and effectiveness [Umiker (1992), Pfeiffer and Dunlap, (1990), Conger and Kanungo, (1988)]. According to Umiker (1992), the more that people are in control of their work, the greater their self esteem, energy, enthusiasm, productivity and attendance; people who have power are more likely to achieve their desired outcomes. The sense of powerlessness maximises feelings of inadequacy and lower self-confidence, which, in turn, lessen motivation and effectiveness [Conger, (1989)].

Since powerlessness equates to low self-esteem and a diminished sense of autonomy and responsibility, to enhance individuals’ belief in their self-efficacy, leaders must satisfy their needs, including need for power and self-actualisation. An individual’s sense of mastery through actual experience is the most effective means of increasing self efficacy (Bandura 1986). Initial success experiences will make them feel more capable and, in turn, empowered. Whetton and [Cameron, (1984)] regard empowerment as the process of motivation through enhancement of self-efficacy, the power to produce effects.

Hence, it is postulated that certain leadership styles (of the project leaders) increase/decrease the sense of powerlessness (of project team members) and negatively/positively affect performance via decrease/increase in motivation.
Research Rationale

The dichotomous classification of power is examined by [Bass, (1960)] and Yukl and [Falbe, (1991)]. One is position power that is derived from the person’s post in the organization and the other is personal power that is determined by the individual’s personal attributes such as expertise and status. An alternative perspective from [Daft, (2000)] is that sources of power can be examined from two aspects: vertical and horizontal. Vertical sources of power include formal position, resources, control of decision premises, and network centrality. Horizontal sources of power include dependency, financial resources, centrality, non-substitutability, and coping with uncertainty.

The examination of power in construction project organizations should consider their characteristics which distinguish them from other types of organizations. As the formal leader of the team, the project leader is legitimately conferred with positional power [French and Raven, (1959), Mintzberg, (1983)]. Thus, the leader guides followers’ performance via a combination of power exercising (through power sharing and amassing) and leadership exertion.

A power-based leadership model is developed in [Liu et al, (2003)] and subsequently tested by means of structural equations modeling in [Liu and Fang, (2004)]. Among the 69% variability of members’ performance accountable by their model, more is attributable from the contribution of performance-oriented leadership (0.54) than from member’s intrinsic motivation (0.49). While intrinsic motivation is causal to performance, the effect of intrinsic motivation comes mostly via empowerment/power sharing from manager’s referent power.

Power concerns dependency on and control of resources and empowerment concerns delegation of control. The findings that positional power has very little effect on motivation may suggest that project managers in China do not have much control of resources, hence, motivation is more reliant on project manager’s referent power than positional power. It is found (Liu and Fang, 2004) that the importance of the effects of various power sources on members’ performance and extrinsic motivation are ranked as (1) referent power, (2) expert power and (3) positional power.

In order to further investigate the effects of the project manager’s exercising of power exertion behaviours on the responses of project team members, it is proposed that network model for project organisations are developed from the social network analysis (SNA) approach.

Proposed methodology

Social networks are a way of describing systems, which are, composed of related multiple elements [Scott, (2000)]. Each element, sometimes called node or actor, may have a relationship (or tie) with the other elements. Social networks can describe relationships between individuals, groups, organizations, computers and other information/knowledge processing entities [Wasserman and Faust, (1994)]. Social network analysis (SNA) is the
set of techniques used to observe social networks and for the mapping and measuring of relationships between elements.

A number of important insights about power have been contributed by SNA. Because power is a consequence of patterns of relations, the amount of power and its distribution in social structures can vary. Power is both a systemic (macro) and relational (micro) property. For measuring power, the concept of centrality is usually used [Brass, (1992)]. The idea of the centrality of individuals and organizations in the social networks is one of the earliest to be pursued by social network analysts, e.g. [Bavelas, (1948, 1950)]. Up to now, a number of competing concepts and measures of centrality have been proposed. The three most widely used centrality measures are degree, closeness, and betweenness [Freeman, (1979)].

The degree measure of centrality is defined as the number of direct links to or from an actor [Scott, (2000)]. Actors who have more ties to other actors may be advantaged positions and have more power than others. The degree measure is sometimes broken down into in-degree (number of direct ties in which the actor is the object of the relation) and out-degree (number of direct ties from the actor to others). If an actor receives many ties, this may indicate the actor’s importance as many other actors seek to direct ties to it. If an actor has unusually high out-degree, this shows that the actor is able to exchange with many others, or make many others aware of their views. Actors who display high out-degree centrality are often said to be influential actors.

According to [Freeman, (1979)] and [Wasserman and Faust, (1994)], the closeness centrality indicates how “close” an actor is to all other actors in the network or in other word, the extent to which an actor can avoid the control of others. It is calculated on the basis of farness, which is the sum of the shortest (geodesic) distances from an actor to all others. Farness can be converted into closeness by taking the reciprocal (that is one divided by the farness) and normalizing it relative to the most central actor. Conceptually, the closeness measure has been interpreted as efficiency (extent to which an actor can reach all other actors in the shortest number of steps) and independence (being close to all other actors, a person is less dependent on intermediaries).

Betweenness centrality measures the extent to which an actor falls between pairs of other actors on the shortest paths (geodesics) connecting them. [Freeman, (1979)] conceptualizes this measure as potential control over others. For example, if two actors A and C are connected only through actor B, B would fall “between” A and C and would mediate the flow of any resources between A and C. Using the computer, it is quite easy to locate the geodesic paths between all pairs of actors, and to count up how frequently each actor falls in each of these pathways. The betweenness measure can be normalized by expressing it as a percentage of the maximum possible betweenness that an actor could have had. Whereas the closeness measure represents avoiding dependence on others, the betweenness measure represents controlling or increasing the dependence of others.

In terms of current Construction Law in Mainland China, for almost all construction projects, an independent outside project management company must be employed by a client. Each main player in a construction project sets up its own team for the project; those being client project team, design project team, contractor project team, and project management team. Moreover, there are other participants such as subcontractors,
consultants, material suppliers, quality monitoring centre for construction projects, industrial safety monitoring centre, government administrative departments etc.

The network model of a construction project organization should be multi-relational. There are many relations between the actors in a construction project organization and the integration of these relationships forms the power of each actor. In Mainland China, the relations usually include (1) contractual (2) payment (3) information (4) friendship (5) kinship or “from same hometown” (6) “having same culture”. The power analysis can be conducted on both the individual level and group level in longitudinal studies.

CONCLUSION

In construction, as in other project situations, where differentiation is extensive, expertise (both special knowledge and experience) is an important source of power. The rules in and around the project team determine the roles of the project manager and project members and specify the meanings of the relationship between the leader and followers. A project manager, as the leader of the mature, experienced professionals, is “...often slightly elevated over them” in terms of influencing power [Walker, (2002)]. The study undertaken by [Rudolph and Peluchette, (1993)] proposes that positional powerlessness is the causal factor for power gap in both private firms and government bodies. In the case of the project team, the attribute for the power gap formation is postulated to be the discrepancy in personal power (referent power and expert power) rather than positional power and it is proposed that social network model be developed to investigate the power exercising behaviors.

Culture often dictates how people behave – including the exercising of power. Research indicates that cultural differences exist at the corporate level [Zhang, (2004)] in Chinese construction companies and that Chinese national culture, characterized by Confucianism, nurtured by decades of highly unified political ideology, and centralized planned economy, has great influence at the corporate level. However, China’s recent open and reform policy has been exerting impact on its current culture, which can be reflected from some of the individual cultural traits in a pilot study on organizational cultural profiles involving five enterprises from various regions in China. The enterprise in Shantou in the south of China that is more exposed to western market influence adopts a market-oriented culture in contrast to the other four which are predominantly clan- or hierarchy-oriented. Such differences imply that corporations have undergone cultural changes which affect employees’ behaviors as a response to the changing environment and enhance the importance of the need to understand how the patterns of power exercising are operating and/or being affected in different organizational environments of multi-relational dependencies.

[Walker (1989: 143)] quotes Lao-tse, ‘to lead people, walk behind them,’ and continues, ‘As for the best leaders, the people do not notice their existence. The next best, the people honour and praise. The next, the people fear; and the next, the people hate.... When the best leader’s work is done, the people say, “we did it ourselves”.’ (p144). Walker’s extract from ancient Chinese Taoist philosophy confirms the motivational function of good leadership but also impliedly, the leader’s realization and manipulation of the power gap. That holistic approach of the Chinese yin – yang dichotomy is
exemplified in maintenance-oriented and performance-oriented leadership – one does not exist without the other and together they imply unity.

ACKNOWLEDGEMENT

This paper is partially supported by the Hong Kong RGC competitive earmarked research grant, project no. HKU 7011/98E

REFERENCES


Liu and Tang