

# ORGANISATIONAL EFFECTIVENESS ON BUILDING PROJECTS IN THE UK AND CHINA: AN INVESTIGATION OF THE IMPACTS OF PROJECT MANAGERS, PROJECT ORGANIZATIONAL STRUCTURES AND MANAGERIAL ACTIVITIES

Tong Yang<sup>1</sup> and Richard Fellows<sup>2</sup>

*Department of Architecture and Civil Engineering, University of Bath, Bath BA2 7AY, UK*

Organisational effectiveness on building projects is considered to be the result of the impacts of project managers, project organisational structures and managerial activities. To test the questionnaires developed from a literature review, a pilot study was organised in China and the UK. Data was collected by semi-structured interviews, site observations and questionnaires. The experiment demonstrated both similarities and differences in aspects of project managers' personal background and their managerial activities on sites in China and the UK. Different understandings of questions in two countries have important influences on the precision of information collected. Findings and problems from the pilot study are presented and future work is proposed.

Keywords: project manager, organisational structure, managerial activity, organisational effectiveness, culture.

## INTRODUCTION

Organisational effectiveness is the ability of an organisation to exploit its environment in the acquisition of scarce and valued resources. It is influenced by many factors, notably ability, effort and opportunity which lead to performance (Kast, et al., 1985). Schneilder (1983) argued that organisational behaviour is determined by people's behaviour. People's behaviour at any given moment is the result of: "personalities; perceptions and understanding of each other; attitudes to the behavioural constraints imposed by the role relationship; degree of their socialisation with respect to constraints; ability to inhibit and control their behaviours" (Buchanan, et al., 1985:329). Variations in organisational performance can be attributed to at least three sets of variables: (a) the effort and ability of the manager; (b) the environment in which the manager and the organisation operate; (c) the effort and ability of subordinates (Cammock and Dakin, 1995).

The evaluation of organisational effectiveness of construction projects is complex, not only because of the multi participation by clients, architects, contractors and subcontractors but also because of value judgements by decision makers. The situation is encapsulated by considering construction projects to constitute a temporary multi organisation (TMO), as discussed by Cherns and Byant (1984) in which a shifting, multi-goal coalition operates (Cyert and March, 1963), largely on the

---

<sup>1</sup> abpty@bath.ac.uk

<sup>2</sup> R.F.Fellows@bath.ac.uk

basis of a politically based power structure (Newcombe, 1994 , 1997). “If the project meets the technical performance specifications and /or mission to be performed, and if there is a high level of satisfaction concerning the project outcome among: key people in the parent organisation, key people in the client organisations, key people on the project team, and key users or clientele of the project effort, the project is considered an overall success”(Baker, et al., 1983: 671).

The aim of the study is to understand organisational effectiveness and issues which influence project organisational effectiveness on building sites. By asking questions such as, how the project managers do their jobs and why do they do so, the research examines the influences of the characteristics of the project managers and the organisational structure on their managerial activities. The environmental elements, specifically the culture background, is a focus of the study. The research intends to identify interrelationships between the characteristics of project managers, their managerial activities on site, the project organisational structure and effectiveness. As building projects in the UK and China will be taken as the research contexts, the results (hopefully) will demonstrate the impact of national culture through empirical, multicase studies.

### **Aim of the research**

To understand the characteristics of project managers, managerial activities, the project organisational structure and project organisational effectiveness on building projects in the UK and China.

### **Objectives of the research**

Given the over-riding aim of the research, the particular objectives of the study are to:

1. 1.Examine and compare the characteristics of project managers in the UK and in China, in respect of age, qualifications, training, experiences and leadership style;
2. Examine and compare the managerial activities of project managers in the UK and China in the following aspects:
  - a) the job descriptions for project managers and the perceptions of those jobs from the views of the company, the project team members and the project managers themselves;
  - b) the managerial activities that the project managers actually execute;
3. Examine and compare project organisations in the UK and China
4. Examine and compare organisational effectiveness on projects in the UK and China.

## **METHODOLOGY**

There are four main elements in the research. They are the characteristics of project managers (element 1), the project organisational structure (element 2), managerial activities (element 3) and project organisational effectiveness (element 4). To understand the interrelations between these elements, case studies have been determined to be the most suitable method.

According to Yin (1987),”A case study is an empirical inquiry that:

- investigates a contemporary phenomenon within its real-life context; when

- the boundaries between phenomenon and context are not clearly evident; and in which
- multiple sources of evidence are used.” (Yin, 1987: 23). “Case studies are the preferred strategy when “how “ or “why” questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context.” (Ibid.: 1).

Yin (1987) believes cases in the case studies do not have to be representative because case study intends to discover the interrelation between the events. In the opinion of Fellows and Liu (1997), “Case studies constitute a distinct ‘style’ of research and they are a means of obtaining data rather than a particular methodological approach” (Fellows, et al., 1997:16). There is a general agreement that “Case studies encourage in-depth investigation of particular instances of the research subject. The nature of the in-depth data collection may limit the number of studies, when research is subject to resource constraint”(Ibid.: 16).

Naturally, the results of the research will be more convincing if the cases studied possess representative qualities. However, it is very difficult to define and choose representative building projects. An alternative, appropriate method for this research is to select ‘paired’ projects in the two countries. By examining ‘paired’ projects, the similarities and differences in the four elements and their interrelations may be identified.

It is well known that most building projects are bespoke. ‘Paired’ projects can be achieved only in terms of similar amount of investment equivalent in two currencies (British Pounds and Chinese RMB), type of building (industrial building, civil engineering, commercial or house building), and some technical indexes (number of floors, steel-cement structure). Given the considerations of the time, manpower and the number of cases in previous studies (Mintzberg, 1973; Kotter, 1982; Gabarro, 1987; Hills, 1992; Hales, 1996), 6 projects in the UK and 6 projects in China are to be studied.

The case-study approach is labour-intensive, as well as making fairly heavy demands on the good-will of the respondents and the interpersonal sensitivity of the researcher. It was considered the only approach that would accommodate the complexity and depth of the research required. The main problem is to assemble two populations of projects which are matched and which can be said to be reasonably representative of the ‘natures’ of projects undertaken in the two countries. Further, it was necessary to establish the nature and size of the prospective sample and to determine what dimensions are important. Due to the nature of the subject matter under investigation, much of the data collected will be qualitative.

Questionnaires, semi-structured interviews and direct observations will be used to collect data. To facilitate comparison of the findings with previous research, the questionnaires will be based on previous studies, such as Mustapha (1990), Dulaimi (1991) and Stewart (1994). Documentation, such as organisational charts and job descriptions for the project managers will be collected. Since the research involves two countries, to reduce the barriers of languages, questions in the semi-structured interviews and the questionnaires will be translated into Chinese by the researcher. Then an independent translator will be invited to translate the Chinese version back into English to ensure that the both versions are equivalent. A particular concern for the pilot study, reported below, was to investigate whether the respondents from the two countries had equivalent understandings of the questions.

To get the data about project manager's managerial activities, direct observation on the building sites will be effected by shadowing the project managers for several working days. Luthan's (1988) managerial behaviour category will be applied to classify the activities of project managers in their jobs. Throughout the semi structured interviews with the project managers, their immediate bosses and the subordinates in the project team, data will be gathered about the perceptions of managerial activities and understanding of expectations from each group. Eventually, 'outsiders' such as the clients, architects and subcontractors, will be contacted in order to obtain their opinions concerning satisfaction with the projects.

The four main elements of the research will be examined by measurement of the following primary variables:

### **Project managers**

1. age and sex:
2. academic performance: degrees received, subjects
3. professional training: professional certificates,
4. experience: previous working experience (career path); length of time in the current company; length of time in the current job
5. preferred leadership style: Fiedler's Least Preferred Co-worker (LPC) ( Rowlinson, et al. 1993).

### **Organisational structures of building projects**

1. number of specialised sections in the building project;
2. regulations concerning routine procedure;
3. documents concerning the work of project managers;
4. the level of decision making.

### **Managerial activities**

1. Perception of managerial activities from:
  - (a) superior of project managers;
  - (b) project managers;
  - (c) subordinate;
2. Observation of the activities of project managers on the job.

### **Effectiveness of project organisation**

The expectation for the project from:

1. clients or their representatives,
2. architects,
3. subcontractors,
4. the superior,
5. the project managers,
6. the subordinates.

## **PILOT STUDIES IN CHINA AND THE UK**

In order to examine the operation of the data collection instruments prior to the main investigation, pilot studies were carried out in China and the UK. The main aims of pilot study were: (1) to test the questions developed from the literature research and to make adjustments to suit the realities; (2) to gather the information about the availability of the research data required; (3) to identify the most efficient ways of collecting the data; (4) by analysing the data from the pilot study, to provide insight into the basic issues of the main research; (5) to finalise the research design by examining a fresh set of empirical observations in the light of existing theory. Cases studied in the pilot were selected on the basis of geographical convenience and data availability.

The first pilot study was carried out in China between 12 January, 1998 and 4 March, 1998. Four cities (Beijing, Xian, Yintan and Shanghai) were visited. 80 questions were translated into Chinese by the researcher and an independent translator translated the questions back into English to ensure that the questions in the two languages had equivalent meanings. In Beijing and Yintan, people with knowledge of the construction industry were invited to discuss the questions.

Three construction companies in Xian and one construction company in Shanghai were contacted. Shannxi Province Bureau of Construction and Shannxi Province Construction Project Quality Monitory Department were visited. A letter in Chinese explaining the aims and objectives of the research was presented by the researcher to project managers who were approached directly. Two project managers in Shannxi were interviewed by the researcher and three in Shanghai answered the questionnaire posted.

Site observation was carried out in Shanghai in February, 1998. The company involved is a State Owned Enterprises (SOE) with 46 years history. This particular project is an industrial building of 1.2 billion RMB (1 pound = 13.75 RMB). The construction started in June 1997 and is expected to be finished in December 1998. The company has been working for the client regularly over the last 20 years and was appointed to build this plant. The executive manager of the construction company was contacted first. After his approval, the researcher was introduced to the project manager and the project team. Site observation was arranged. The project manager was followed for 5 working days (9:00 a.m. -- 5:00 p.m.).

Data in China were gathered mainly by semi-structured interview and direct observation. Documents concerning the organisational structure, rules and regulations of the company and the project were collected. A tape recorder was used whenever possible in the whole process. Problems encountered were that the respondents were very reluctant to give their opinions directly to questions which they perceived to possibly involve criticising others.

The UK pilot study was conducted in April. In review of the results from the pilot study in China, some questions were adjusted in order to increase the precision of the information collected. Two construction sites, one a new residential building project and one reroofing project were approached by the researcher. Project managers on the two sites, their subordinates and their superiors answered the questionnaires (designed for each group separately). The relevant respondents (project manager, the subordinate and the superior) from an construction consultant company answered the questionnaires too. In addition, an experienced MSc student answered the

questionnaire. In total, four project managers, three superiors and three subordinates contributed to the study by answering the questionnaires.

Site observation was carried out on a new residential project, a 4 storey sheltered accommodation comprising 55 units. The contractor specialises in house building for retired people and this project is being developed and were designed by the company itself. The time scale for the completion of the works is 61 weeks, comprising 4 weeks demolition and 57 weeks construction. By the time the project manager was shadowed, the project was in its 28th working week. The project manager was visited by the researcher directly, after the approval from the company; the project manager was followed for 3 working days (9:30 a.m. -- 4:30 p.m.).

## **MAIN FINDINGS**

All the project managers, both Chinese and British, in the pilot study were male in their 30s or 40s. Their careers have been entirely in the construction industry. Experience in the construction industry seems to be an essential requirement for project managers. 2 of the 4 British project managers started as general labour on site. 2 of the 6 Chinese project managers have university education in non-civil engineering subjects. The rest of the project managers have civil engineering or architecture backgrounds.

In respect of leadership style, most of the project managers in both China and the UK are relationship-motivated. The average LPC score for British project managers is slightly higher than that for the Chinese project managers. The actual leadership style preferred by British project managers is directive orientation. The Chinese project managers tend to apply participative orientation and supportive orientation leadership styles.

The second element investigated is the organisational structure of building projects. On the level of the company, unlike the British construction firms, some Chinese construction firms do not have regional offices as permanent bases for operating in certain geographical areas. On the level of projects, the structure varies largely depending on the size of the projects in the case of the UK. In China, it depends on the economic system. The transformation from a planned economy to a market economy diversifies the organisational structure of projects and directly influences the authority of the project managers. The subcontract system is much less developed for projects in China. In general, it is found that (1) the project managers in both countries have much authority in organising the production on the site; (2) the Chinese project managers enjoy more authority than the British project managers do in making decisions concerning personnel selection and employment of the labour force; (3) the project organisations in both countries do not function as independent profit centres, but as a cost centres.

The third element in the research is the managerial activities of project managers on site. Data collected in the UK shows that the perceptions about the managerial activities from the superiors, the subordinates and the project managers are not consistent. Although they agree that exchanging routine information, planning, decision making, monitoring /controlling performance and managing conflict are the most important activities in the project managers jobs. All subordinates believed motivating subordinates is not important. But most of the project managers considered it as the most important. Similarly, human resource development is

regarded as a very important by the superiors, but not by the project managers themselves.

The site observations confirmed the findings of previous research into project managers' time distributions (Mustapha, 1990; Langford, et al., 1995). The work of project managers is fragment in the construction industry. Most of the managerial behaviours identified by Luthan (1988) were practised by both the Chinese and the British project managers on the two sites. The differences in the managerial activities between the Chinese project manager and the British project manager is their involvement in dealing with people in their jobs. The Chinese project manager spent a great deal of time in persuading and co-ordinating the work by talking with people, especially face-to-face. He often acted as the judge when conflicts arose among subordinates. The British project manager rarely dealt with problems concerning people. He was consulted for technical issues and was very much involved in the production directly. He spent much more time on the site compared with the Chinese project manager. However, since the two projects observed are not in 'paired' in the aspects of investment and type of building, the differences in managerial activities between the Chinese project manager and the British project manager need more evidence.

The forth element in the research is organisational effectiveness. Satisfaction of all participants is used as the measure. In the pilot study in China, it was found that all participants in the project cited completion of the contract (completing the project in time and achieved the quality required) as the only way to be satisfied. The Chinese project manager mentioned that training his people, bringing up cadre and meeting new friends are his personal aims in managing projects. The company expects its work force to become more experienced and efficient, but completion of the current project is primary task. The subordinates are more concerned about economic benefits.

In the case of the pilot study in the UK, to evaluate the project, the satisfaction of the client is considered as the most important element by 75% of the project managers and 100% of the superiors. Completion of the project within budget is regarded the most important element by 75% of the project managers and 50% of the superiors. Concerning developing the human resources of the company, 100% of the superiors reported it as the most important; 25% of the project managers think it is very important, 25% of the project manager think it is important and 50% of the project managers did not consider it at all!

## **DISCUSSION OF THE RESEARCH METHOD AND FUTURE WORK**

The pilot study has highlighted characteristics of the case study method. Conducting pilot studies in China and the UK, using a combination of questionnaires, semi-structured interviews and site observations has proved to be effective in collecting data.

Following the pilot study, questionnaires for project managers, their superiors and their subordinates have been amended. For example, there was a general reluctance to criticise others in China. Therefore, questions which seemed to be difficult to answer have been changed. Respondents can give their opinions without referring to individual persons. Definitions used in the research, such as project manager and authority, are given. Questions adopted from previous studies in manufacturing

industries have been adjusted to match the situation in the construction sector more closely.

In the pilot study, there were not sufficient opinions from the clients, architects, designers, subcontractors, and local authorities because of the constraints of time and resources. Contacts with the clients, architects, local authorities were difficult to establish. Therefore, to get relevant information in the formal investigation, the number of questions for these groups were amended, to: (1) if they are satisfied with the project; (2) ideally, how they think they can be satisfied by the projects, and (3) what do they expect the project managers to do in their work.

It is planned that the researcher will spend a period of two weeks on each project for the main study, which include 5 working days shadowing and 5 working days contacting clients, architects, the local authority and other groups who participate the project. The questionnaires for project managers, the superiors and the subordinates can be completed in the presence of the researcher in case further explanation/clarification is required.

Language used in cross culture research can influence the accuracy of the data greatly. In the pilot study, the questionnaires were translated by the researcher into Chinese and an independent translator translated the Chinese version back into English. By doing so, it was intended to make sure that the questions in Chinese version and in English version were equivalent. However, because of the cultural background, the Chinese respondents still had some difficulties in answering the questions which were designed in the West and for Westerners. Therefore, another bilingual person should be invited to examine the questionnaires to help ensure that they have the same meanings in the two different languages.

Having 'paired' projects is important for this research. But it seems to be difficult to achieve. From the experience of contacting construction organisations, it has been found that in China, the top management of the organisation should be contacted first. After getting their agreement, the researcher can go to the sites recommended by the top management. In the UK, directly contacting the site manager is more efficient than writing to the companies and asking for co-operation. However, the accessibility to sites is rather limited due to the constraints of money and time. In both cases, there is not a sufficient number of projects available to ensure that the projects studied will be in pair. Nevertheless, the field work starts in the UK first and hopefully "paired" projects can be found in China, where a rather big construction market exists.

A positive aspect of the research is that there is interest from the industry, both in China and the UK. There is general interest to know how colleagues in the other country do their job. The interest from the Chinese is more focused on technology and technical organisation of the project; the interest from the UK is more focused on the human aspects of the project and on the differences of cultures.

## **REFERENCES**

- Baker, B. N., Murphy, D.C. and Fisher, D. (1983) Factors affecting Project Success. in Cleland and King (ed.) *Project Management Handbook*. Van Nostrand Reinhold Co. NY. P 671
- Buchanan, D.A. & Huczynski, A.A. (1985) *Organisational Behaviour*, Prentice/Hall, Englewood cliffs

- Cammock, P., Nilakant, V. and Dakin, S. (1995) Developing a lay model of managerial effectiveness: a social constructionist perspective, *Journal of Management Studies*, Nov. 32, No. 4, p. 443 - 474
- Cherns, A.B. and Bryant D.T. (1984) Studying the client's role in construction management, *Construction Management and Economics*, 2, 177-184
- Cyert, R. M. and March, J.G. (1963) *A Behaviour Theory of the Firm*, Englewood Cliffs, N.J.: Prentice-Hall
- Dulaimi, M. F. (1991) *Job Behaviour of Site Managers*, Ph.D. dissertation, University of Bath
- Fellows, R. and Liu, A. (1997) *Research Methods for Construction*, Blackwell Science, Oxford, London.
- Gabarro, J.H. (1987) *The Dynamics of Taking Charge*, Mass, Boston
- Hales, C. and Tamangani, Z. (1996) An investigation of the relationship between organisational structure, managerial role expectations and managers' work activities, 731--757, *Journal of management studies*, Vol. 33, No. 6, 1996
- Hill, L.A. (1992) *Becoming a New Manager: Mastery of a New Identity*, Mass, Cambridge
- Kast, F.E. & Rosenzweig, J.E. (1985) *Organisation and Management a systems and contingency approach*, McGraw-Hill, New York
- Kotter, J. (1982) *The General Managers*, Free Press, New York
- Luthans, F. (1988) Successful vs. Effective Real Managers, *The Academy of Management EXECUTIVE*, Vol. 2, No.2, p 127 - 132
- Mintzberg, H. (1973) *The Nature of Managerial Work*, New York, Harper & Row.
- Mustapha, F.H. (1990) *Who are the effective construction site managers & what skills do they bring to their work?* Ph.D. thesis, University of Bath
- Newcombe, R. (1994) *Procurement Paths - a Power Paradigm*, paper presented at CIB W92, Procurement Systems Symposium in Hong Kong, December 1994, 9 pages
- Newcombe, R (1997) *Procurement Paths - a Cultural/ Political Perspective*, paper presented at CIB W92, Procurement Symposium, May 1997
- Rowlinson, et al. (1993) Leadership style of construction managers in Hong Kong, *Construction Management and Economics*, 1993, 11, 455 - 465
- Schnieder, B. (1983) An interactionist perspective on organisational effectiveness, Cameron, and Whetten, ed., *Organisational Effectiveness*, 1983, Academic Press, New York, London
- Stewart, R., Barsoux, J.L., Kieser, A., Ganter, H.D., & Walgenbach, P. (1994) *Managing in Britain and Germany, An Anglo-German Foundation Report*
- Yin, R.K. (1987) *Applications of case study research*, Sage Publications, Newbury Park, London