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LEADERSHIP IN CONSTRUCTION PARTNERING PROJECTS: RESEARCH METHODOLOGICAL PERSPECTIVE

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ABSTRACT: In recent years there has been a growing interest in the use of partnering in construction. Central to any successful partnering arrangement is the change in cultural and behavioural characteristics towards mutual trust and understanding. According to Schein, cultural and behavioural characteristics can be shaped and reflected by proper leadership. This research probes leadership as the response to address complex relationships of behaviour and culture in large scale partnering projects. This involves understanding, interpreting, explaining and mapping complex human behaviour. Therefore it is very important to comprehend and implement a suitable research methodology to carefully extract appropriate information. This paper justifies the social constructionism stance and case study approach for the leadership study as the response to address complex relationships challenges of behaviour and culture in construction partnering projects. For this purpose, the nested approach is used, highlighting the main facets of the arguments to justify the selection of appropriate research philosophy and research approach.

Keywords – Partnering, Leadership, Research Methodology

1 INTRODUCTION

Management research deals fundamentally with the production and legitimation of the various forms of knowledge associated with the practices of management. The approaches to management research and knowledge creation involve a varied combination of the key processes of observation, reflection, theory conjecturing and testing of theories and model developed to capture the essence of management realities. Therefore it is unwise to conduct research without an awareness of the philosophical issues that lie in the background. Research should be organised systematically to make the best use of the opportunities and available resources. In this regard, this paper attempts to outline available research philosophies and approaches, while logically justifying the use of appropriate research methodology to 'identify appropriate leadership styles and practices to address the cultural and behavioural challenges associated with partnering projects in construction'. For this purpose, the hierarchical model of research methodology by Kagioglou et al. (1998) is used, highlighting the main facets of the arguments to justify the selection of appropriate philosophical stance, research approach and research techniques.

2 BACKGROUND

The UK construction industry is one of the strongest in the world, with output ranked in the global top ten construction industries (DTI, 2004). It is considered as one of the pillars of the domestic economy, with its capability to deliver the most difficult and innovative projects, matches that of any other construction industry in the world (Egan, 1998). Nonetheless there is a deep concern that the industry as a whole is underachieving. Problems such as low and unreliable demand and profitability, lack of research and development, inadequate investment in training, its current approach to the usage of tender price evaluations, an adversarial culture and fragmented industry structure, are widely

recognised. These problems must be addressed if the industry is to modernise and to improve performance (Latham, 1994; Egan, 1998; Santos and Powell 2001; NAO, 2001; Fairclough, 2002). Successive independent reviews of construction have emphasised the need to improve the culture, attitude and working practices of the industry.

As a follow up to recent industry commissioned reports, several support divisions and programmes were inaugurated to improve the performance to the world-class standards. According to Oakland (2001), excellence can be defined as 'Achieving world-class performance', thus much research in the construction industry in recent years has been focused on 'achieving construction excellence'. Study on evolution of business excellence revealed that the principles of 'business excellence models' and 'constructing excellence' shares the common objectives of 'delivering world-class products and services'(Thurairajah et al., 2005). A comparison of construction industry concepts with internationally recognised business excellence models was carried out to find resemblance and disparity in the application of excellence concepts. Results clearly indicated the significance of leadership element in excellence concepts (Thurairajah et al., 2005). In this regard, a leadership study in construction was selected as the primary area of research.

3 RESEARCH PROBLEM

In addition to the excellence concepts in recent industry commissioned reports, it has been found that there is a growing interest in the use of partnering in construction (Bresnen and Marshall, 2000a; Dainty et al, 2001; Wood and Ellis, 2005; Ingirige, 2004). Partnering and the related forms of collaboration have been seen as a way of dealing with the fragmentation and lack of integration that have bedevilled attempts to improve project performance over the years (Bresnen and Marshall, 2000a). This represents perhaps the most significant development to date as a means of improving project performance, whilst offering direct benefits to the whole supply chain (Larson and Drexler, 1997; Wood and Ellis, 2005). Many commentators argue that partnering can have a substantial positive impact on project performance, not only with regard to time, cost and quality objectives, but also with regard to more general outcomes such as greater innovation and improved user satisfaction (Latham, 1994; Bennett and Jayes, 1998; Bennett et al., 1996; Bresnen and Marshall, 2000c).

Partnering has been defined as 'a long term commitment between two or more organisations for the purpose of achieving specific business objectives by maximising the effects of each participant's resources (Bresnen and Marshall, 2000a). While there is an agreement about this overall philosophy of partnering, there are varying views on its features. This includes wide range of concepts capturing culture, behaviour, attitudes, values, practices, tools and techniques. Despite the fact that commentators place considerable emphasis upon the importance of changing attitudes, improving interpersonal relationships and transforming organisational cultures, very little of the research has explored in the social and psychological aspects associated with the successful integration of partnering (Bresnen and Marshall, 2000a; Wood and Ellis, 2005). Managing and leading such a complex supply chain towards its objective and shared benefits needs a better, appropriate leadership throughout the project. A lack of empirical evidence indicates the necessity of leadership research in construction partnering projects to achieve specific business objectives by maximising the effectiveness of each participant's resources and establishing ongoing business relationships. The requirement for a suitable leadership to lead the supply chain towards its objectives forms the basis of the research need of the study.

4 RESEARCH FOCUS

Central to any successful partnering arrangement is the change in attitudinal and behavioural characteristics towards mutual trust and understanding. Green and McDermott (1996: Bresnen and Marshall, 2000a) argue the attitudes and the behaviour evident in the construction industry are deeply ingrained and that it is difficult to engineer any rapid movement away from such an embedded culture. Much of the literature tends to presume that cultural alignment is a prerequisite for partnering. Since partnering is seen as changing behaviours and attitudes cultural transformation cannot be forgotten in the process. Bresnen and Marshall (2000a) stress the importance of decentralised, flexible structures, where the team is expected to operate with considerable autonomy and discretion to convert formal partnering arrangements into real differences in behaviour at operational levels.

The significance of cultural and behavioural challenges on partnering related collaborative methods, together with lack of empirical evidence of leadership literature in construction clearly indicates the need for leadership research in construction partnering projects. Furthermore, recent growth in the contribution of partnering projects to construction output justifies the selection of partnering projects. For example, total investment of £ 42.69 billion from public sector in 2004 on PFI projects (HM-Treasury, 2005) and £ 6.8 billion from BAA (2005) on partnering indicates the extent and the importance of partnering projects in UK construction. However for the purpose of this research, large scale partnering projects will be selected due to the significance in contribution to the total output of construction industry. Also large scale partnering projects may extend over several years with the involvement of various participants from the entire supply chain. This results in a short term natured organisation with shared benefits as the common objective. Research will focus on leading such partnering arrangements, to understand and address the complex nature of cultural and behavioural challenges.

According to Bresnen and Marshall (2000b), there are limitations to the use of contract incentives as a motivational tool in partnering projects and often broader organisational goals were more potent influences on behaviour. Therefore it is important to develop collaboration which does not rely simply upon devising appropriate incentive mechanisms, but instead embracing a wide range of supporting internal policies, systems and practices (Bresnen and Marshall 2000c). As discussed in research problems, leadership can be employed to devise supporting internal policies, systems and practices to address the challenges due to cultural and behavioural diversity in partnering projects. Also the existing research fails to concentrate adequately with the complex relationship between individual or group behaviour and organisational culture (Barlow and Cohen, 1996; Bresnen and Marshall, 2000c) which, nevertheless lies at the heart of many prescriptions for improving collaboration within the industry (Bennett and Jayes, 1998). This research probes leadership as the response to address complex relationships of behaviour and culture in large scale partnering projects.

5 RESEARCH AIMS AND OBJECTIVES

The aim of the research is to identify appropriate leadership styles and practices to address the cultural and behavioural challenges associated with partnering projects in construction.

In this process, a comprehensive literature survey will be done to understand leadership concepts and challenges related to partnering projects. This 'theory development' towards leadership practices in addressing behavioural and cultural challenges of partnering projects will provide strong guidance in determining what data to collect and the strategies for analysing the data.

Following objectives are formulated to develop a framework of 'critical success factors of leadership' to improve performance by addressing cultural and behavioural challenges associated with construction partnering projects.

1. Identify the cultural and behavioural challenges in construction partnering projects
2. Explore the range of current leadership roles and practices adopted in construction partnering projects
3. Identify and evaluate leadership practices to address behavioural and cultural challenges of construction partnering projects
4. Develop a framework of 'critical success factors of leadership' to improve performance in construction partnering projects
5. Propose the leadership practices in construction partnering projects

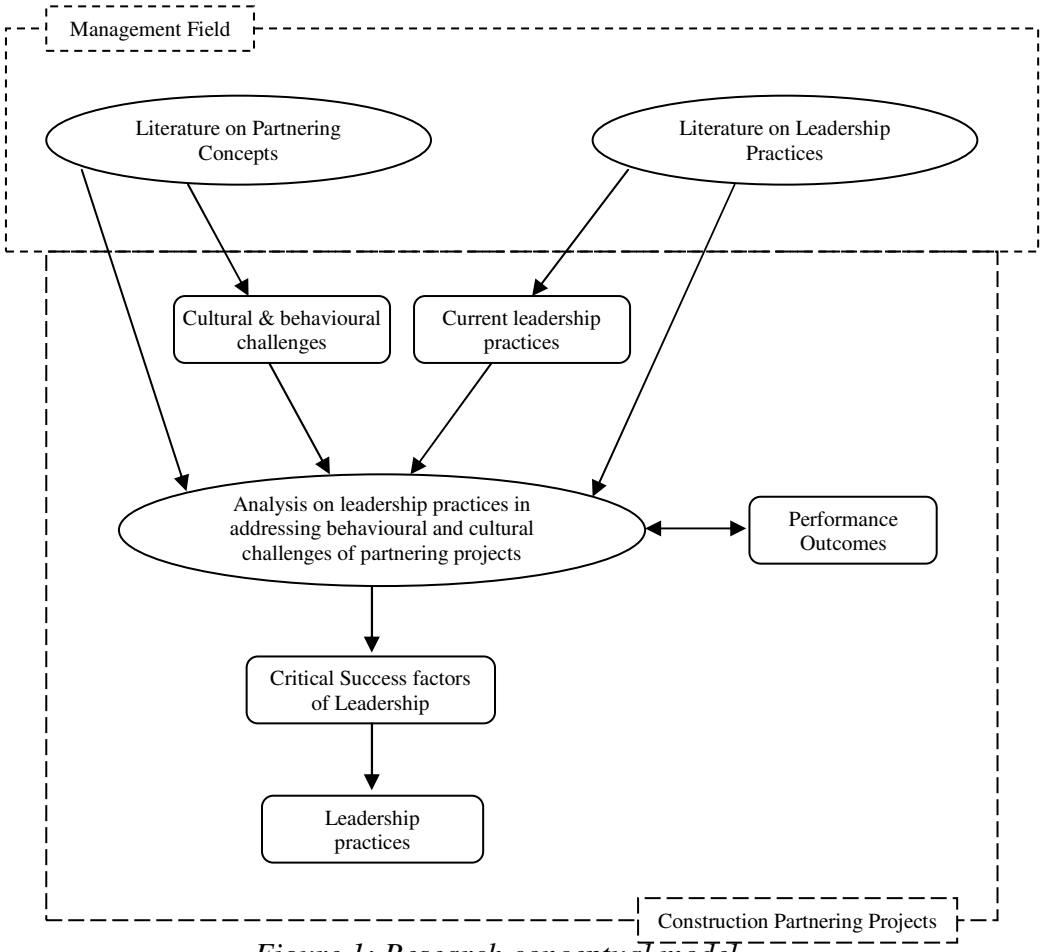

Figure 1: Research conceptual model

Figure 1 illustrates the research conceptual model devised on the literature review and synthesis. Cultural and behavioural challenges in partnering, current leadership practices and literature synthesis will be used for theory building and analysis to fulfil the research aims and objectives. Further to facilitate this process, research questions its propositions are identified in the following section.

5.1 Research Questions

Collis and Hussey (2003) suggest the choice of research questions instead of research hypothesis as the appropriate method of defining research propositions in a phenomenological study. The preference of research questions for this study is further justified by the exploratory nature of this research. Following principle research questions are formed based on the identified theoretical gaps, to fulfil the above stated aims and objectives. This takes the form of two 'grand tour questions' (Collis and Hussey, 2003), each with two 'sub questions', which will be further discussed in 'research methodology' section.

1. What are the current leadership roles and practices adopted in construction partnering projects in addressing major cultural and behavioural challenges in construction partnering projects?
    i. What are the root-causes of cultural and behavioural challenges?
    ii. How does current leadership tackle these root causes and challenges?
2. How can the leadership address these cultural and behavioural challenges in construction project partnering?
    i. What are the 'critical success factors of leadership' in addressing these challenges?
    ii. How these 'critical success factors of leadership' can be practiced in construction partnering projects?

6 RESEARCH METHODOLOGY

Research methodology refers to the overall approach to the design process from the theoretical underpinnings to the collection and analysis of the data (Collis & Hussey, 2003). For this purpose, the hierarchical model of research methodology by Kagioglou et al. (1998) is used. This conceptual model (Figure 2) maintains the direction and cohesion of elements in representing a holistic research methodology. Within this nested approach, the research philosophy found at the outer ring "guides and energises the inner research approaches and research techniques" (Kagioglou et al, 1998)

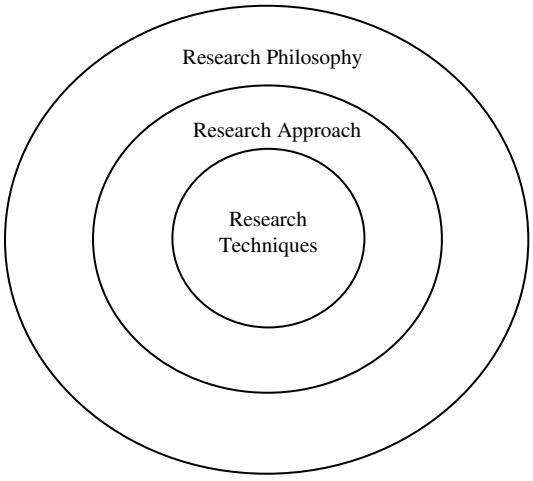

Figure 2: Research methodology 'nesting' (Kagioglou et al, 1998)

6.1 Research Philosophy

The research philosophy is principally concerned with the assumptions that a researcher brings to an investigation. Although there is considerable blurring, the two main traditions of philosophies can be labelled as positivism and social constructionism/phenomenology (Collis & Hussey, 2003; Easterby-Smith et al, 2003). While positivist argue that the world exists externally and its properties should be measured through objective methods, social constructionist hold the view that the reality is not objective and exterior but is socially constructed and given meaning by people (Easterby-Smith et al, 2003). Table 1 outlines the contrasting implications of positivism and social constructionism.

Table 1: Contrasting implications of Positivism and Social Constructionism

	Positivism	Social Constructionism
The observer	Must be independent	Is part of what is being observed
Human Interest	Should be irrelevant	Are the main drivers of the science
Explanations	Must demonstrate causality	Aim to increase general understanding of the situation
Research progress through	Hypotheses and deduction	Gathering rich data from which ideas are induced
Concepts	Need to be operationalised so that they can be measured	Should incorporate stake holder perspectives
Units of analysis	Should be reduced to the simplest terms	May include the complexity of 'whole' situation
Generalisation through	Statistical probability	Theoretical abstraction
Sampling requires	Large numbers selected randomly	Small numbers of cases chosen for specific reasons
Methods used	Experiments, Surveys, Case study, Simulation, Modelling	Case study, Ethnography, Action research

Source: Adopted from Easterby-Smith et al, 2003

By considering the above listed characters social constructionism approach deemed to be more appropriate to this research than the traditional positivist philosophy. As set out in aims and objectives, this research is aimed to interpret and increase the understanding of leadership practices to address the cultural and behavioural challenges. This is largely a theory building attempt by inductive methods of data gathering and it focuses on in-depth study with in uncontrolled environment. Furthermore, research involves the investigation of complex interaction between leaders, followers, teams and processes in real life context. This leads to research the subjective aspects of human activity, focusing on the meaning rather than measurement of leadership phenomenon. Involvement of leadership phenomenon holds a very high degree of believe that the reality is dependant on the mind.

As such, it disqualifies itself from embracing a strong positivist approach and takes social constructionism stance as the appropriate philosophical underpinning.

According to Creswell (1994, cited in Collis & Hussey, 2003) philosophical thinking revolves around ontological, epistemological, axiological, rhetorical and methodological assumptions. While ontological, epistemological and axiological assumptions positions the philosophical stance of a research, rhetorical and methodological assumptions are concerned with language and process of the research respectively. At this stage, for the purpose of positioning the research on the philosophical continuum, it is important to position the ontological, epistemological and axiological assumptions, before embarking on the research design.

In ontological positioning the researcher is to decide whether the reality is objective and external to the researcher, or socially constructed and only understood by examining the perceptions of the human actors (Collis & Hussey, 2003). These two ontological assumptions are known as realist (Johnson and Duberly, 2000) and idealist/relativism (Gummesson, 1991).

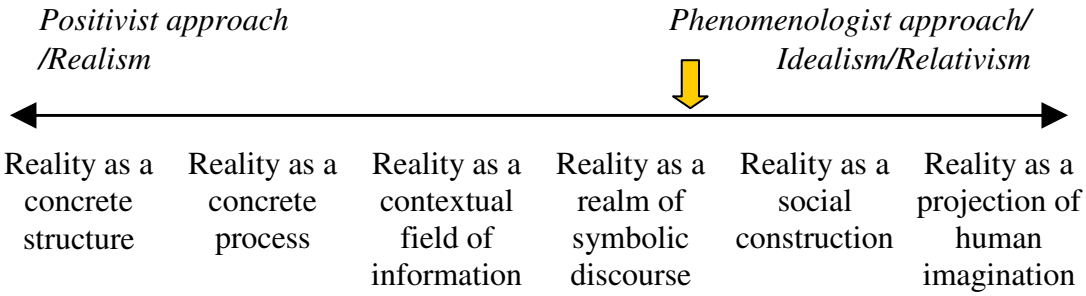

Figure 3: Continuum of core Ontological assumptions
Source: Morgan and Smircich (1980, cited in Collis & Hussey, 2003)

Literature synthesis clearly indicates the presence of cultural issues and leadership practices which are relationships and meanings sustained through a process of human action and interaction. This symbolic discourse (Collis & Hussey, 2003) and social construction together with explorative nature of study resembles with idealist assumptions. However, research doesn't support the extreme reality of phenomenologist approach. Thus the ontological position of the research is indicated with vertical block arrow in Figure 3.

Epistemological positioning deals with questions about how and what is possible to know (Chia, 2002). At one side of the epistemological continuum positivist assumes that there is a reality which exists independently of the observer and hence the job of the researcher is merely to identify this pre-existing reality. In contrast, constructionist does not assume any pre-existing reality and the aims of the researcher are to understand how people invent structures to help them make sense of what is going on around them (Easterby-Smith et al, 2003). Similarly, this research does not assume any pre-existing reality and it aims to interpret and understand how leaders can address cultural and behavioural challenges with unstructured characteristics. It focuses on the collected construction of social phenomena and closely resembles the ideas of social constructionist. However research concentrates on leadership practices alone in addressing cultural and behavioural challenges rather than multiple realities thus an extreme social constructionism perspective of epistemological stance is avoided.

Axiological positioning is concerned with values. Positivists believe that science and process of research is value free. At the other extreme social constructionist consider that researchers have values, and these values help to determine what are recognised as facts

and the interpretations which are drawn from them (Collis & Hussey, 2003). As the undertaken research is of interpretative nature and value laden, a social constructionist approach is more suitable.

By analysing ontological, epistemological and axiological assumptions of the research, the philosophical positioning of the research is shown in Figure 4. While taking an idealist view in ontological assumptions it holds social constructionism stance in epistemological undertakings with value laden axiological position. As guided by nested approach this philosophical positioning influences the selection of appropriate research approach as described in the next section.

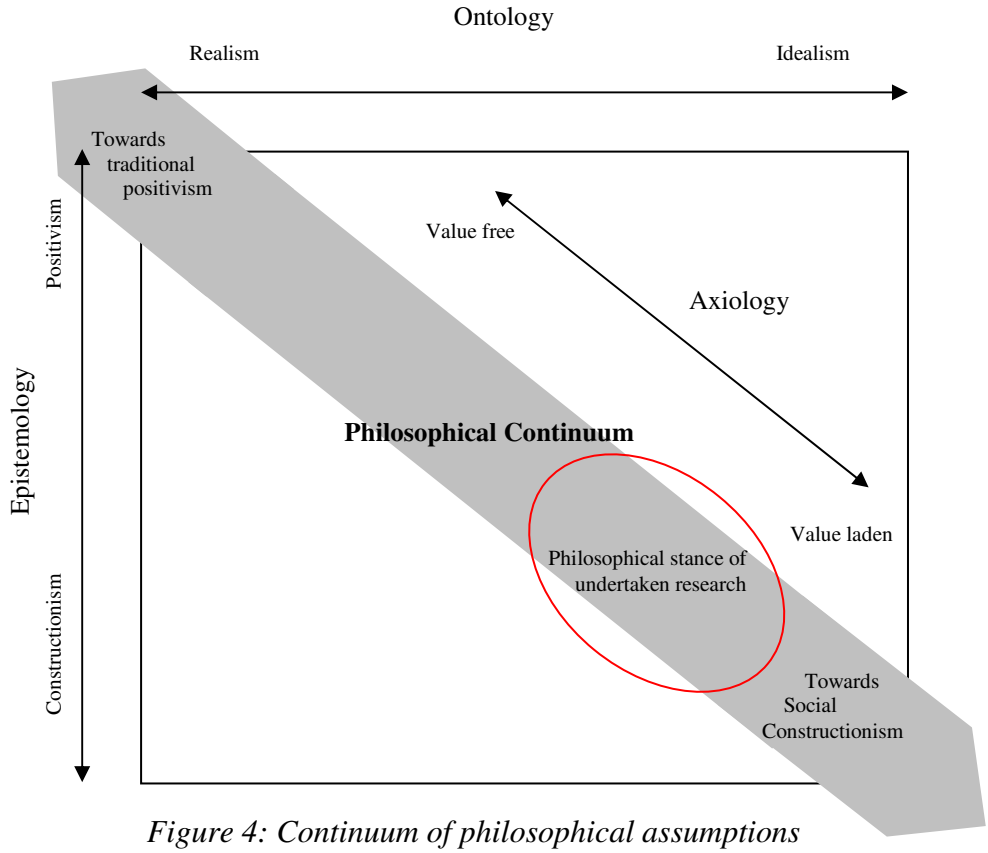

Figure 4: Continuum of philosophical assumptions

6.2 Research Approach

Research approaches are about organising research activity and embodying data collection, in ways that are most likely to achieve the research aims. They are guided by philosophical underpinning and energise the appropriate methods of research techniques. According to Easterby-Smith et al. (2002), five out of six key conditions in choosing appropriate research approach, closely relate to the basic dichotomy between the use of positivist and social constructionist approaches. As such Figure 5 is adopted to populate research approaches which are governed by research philosophies.

As per the selection by philosophical positioning, this research takes social constructionism stance. Since this research resides mainly with in positivist territory experiment and survey strategies are incompatible with this research. Ontological assumption of strong 'pre-existing reality' in experiments, require high extend of control

over the environment by which investigator directly, precisely and systematically manipulates the reality (Yin, 2003). This can only occur in laboratory conditions and a pure experimental design cannot manipulate behaviour in real life context. Further the undertaken research entails fieldwork, as such experiment disqualifies from being a suitable research approach. In contrast, survey doesn't require high control over the environment. A survey can be readily designed to enumerate the 'what' type of exploratory questions and they can be easily applied in social science research. The major limitation of survey strategy is that it's hard to explain an observed pattern and it fails in adequately answering a 'why' type of question (Easterby-Smith et al., 2002). This research requires an in-depth analysis on leadership practices, with the combination of 'what' and 'why' type of questions in addressing cultural and behavioural challenges. Hence, experiment and survey approaches are inappropriate for this study.

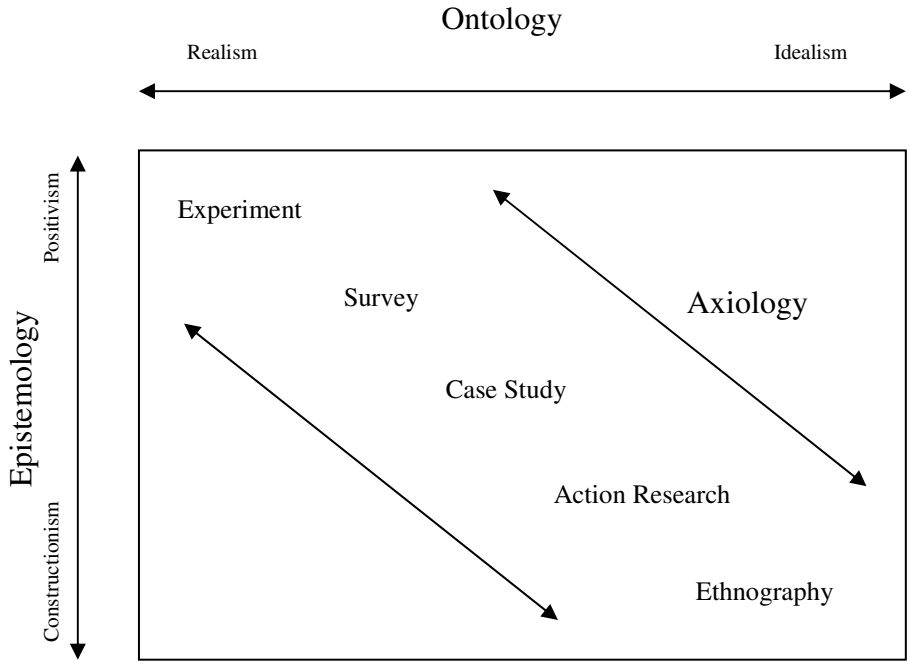

Figure 5: Continuum of research approaches
Source: Adapted from Sexton, 2004

This leaves case study, action research and ethnography strategies as suitable approaches, in which case study is been selected as the most suitable research approach for this research. In action research the researcher tries to solve the problem by being a part within the problem environment with the goal to change the status quo of the participants (Waser and Johns, 2003). This participative, partly controlled approach, concerns with the process of enquiry to form a cycle of planning, acting, observing and reflecting (Heller, 2004; Collis & Hussey, 2003). Conditions such as, partly controlled, participative observation and intervention disqualify action research from being the appropriate research approach. Similarly ethnography is defined as a study of people in fields to capture the social meaning, involving the researcher participating directly in the setting, if not also the activities to collect data in a systematic manner (Brewer, 2004). Even though ethnography does not operate in partly controlled environments, still it requires very high participative observation of the researcher.

In contrast, case study is defined as an empirical inquiry that investigates a contemporary phenomenon within real life context, especially when boundaries between

phenomenon and context are not clearly evident (Yin, 2003). It covers both 'what' type of exploratory questions and 'why' type of explanatory questions. In this research both 'grand tour' questions and 'sub questions' are combinations of exploratory and exploratory nature about contemporary set of events, which is supported by case study methodology. Further the requirement to analyse leadership practices in real life context to address the cultural and behavioural challenges without controlling actual behavioural events clearly justifies the selection of case study as the appropriate research approach. Thereby, following section further examines into case study approach in defining the appropriate case study design.

6.2.1 Case Study Design

As discussed in section 5, the study questions require the 'first case study stage' of finding major cultural and behavioural challenges and current range of leadership practices. The solutions to the 'first grand tour question' will then stage the second phase of case study which is a theory building attempt by responding to 'second grand tour question'. This will lead towards the theory modification approach in the third stage of this case study design. Third stage will mainly concentrate on proposing the roles and responsibilities of leadership to address the cultural and behavioural challenges in construction partnering projects.

Case study designs are categorised into four types according to 2X2 matrix concerned with choice between single or multiple units of analysis and holistic or embedded design situations (Yin, 2003). Selection of multiple case studies strengthens the foundation for the usage of replication logic by adding multiple sources of evidence and support the function of theory building and theory modification. As such, multiple case study approach is selected with minimum possible cases to satisfy the time constrains of this research. Possibilities of further supplementary cases will be examined after the first stage of the research, which will provide the proper understanding of the nature and required time scales for the defined unit of analysis.

The aim of the research is to identify appropriate leadership practices to address the cultural and behavioural challenges in construction partnering projects. The core analysis of this research is focused on cultural and behavioural challenges and the ways and means of addressing such challenges. This defines the 'unit of analysis' as 'cultural and behavioural challenge' cutting across various organisations which are contributing parties to 'partnering charter'. In this regard, 'cultural and behavioural challenge' will be selected as the main unit of analysis, which may occur between different parties in the same project as well as in different projects. This requires the selection of embedded multiple case designs. Research will try to apply literal replication logic for the analytic generalisation. This is due to exploratory and explanatory needs with theory building attempt of this research. Therefore theoretical replication where cases are chosen to predict contrasting results is impossible.

Also the concern over lack of rigor and biasness in case study methodology requires greater validity and reliability. Yin (2003) proposes four design tests to overcome this criticism; construct validity, internal validity, external validity and reliability. Use of replication logic in multiple case studies satisfies the test of external validity, which deals with generalising study findings in the appropriate domain. The intended deployment of other design tests is discussed in the following section together with research techniques which are energised by the selection of appropriate research approach, case study.

6.3 Research Techniques

Research techniques include both data collection and data analysis, which belongs to the inner ring of nested research methodology. Data collection and analysis are developed together in an iterative process in a case study (Hartley, 2004). This section depicts these two issues with reference to case study approach adopted in this research.

6.3.1 Data Collection

Intended data collection techniques depict the ways and means to fulfil the 'aims and objectives' of this study by carefully addressing the research questions as defined in section 5.1. According to Yin (2003), evidence for case studies may come from six sources: documents, archival records, interviews, direct observation, participant observation and physical artefacts.

For the 'grand tour question one', data collection techniques such as documents, archival reports, interviews and direct observations can be used on relevant parties in construction partnering projects. In this context, cultural and behavioural challenges of every project participants will be collected together with the root causes of the challenges and the associated leadership practices. For the above mentioned objectives, 'survey technique' is considered as main source of case study information in gathering data. While the questionnaires are used to identify cultural and behavioural challenges, 'open ended interviews' will be preferred over other interview techniques in exploring leadership practices associated with the root causes. To assist this process a case study protocol techniques will be used in collecting relevant rich data for the analysis. To address 'grand tour question two' 'focused interviews' will be more appropriate as they are to corroborate certain facts, formed through the analysis. This will take place at the second stage where theory building will be the major aim of the research.

Further, Yin (2003) proposes three principles of data collection to maximise benefits from the evidence. They are; multiple source of evidence, creation of case study database and maintenance of chain of evidence. These concepts will be used to address construct validity and reliability design tests. Construct validity concerns with establishing correct operational measures. This research intends to use triangulation by multiple source of evidence, maintenance of chain of evidence and review of draft case study report by key informants which are considered as appropriate tactics in addressing construct validity (Yin 2003). Further the principle of case study protocol and developing case study database will be employed to address reliability design test.

6.3.2 Data Analysis

Data analysis consists of examining, categorising, tabulating, testing or otherwise recombining both quantitative and qualitative evidence to address the initial propositions of a study (Yin, 2003). In this research, to define the general analytic strategy, 'relying on theoretical proposition' is preferred over setting up a framework based on rival explanations and developing case descriptions (ibid, p111). Due to the explanatory nature, 'explanation building analytic technique' is more suitable for this research. However the potential problems with this technique will be reduced by the usage of case study protocol, case study database, and the following of a chain of evidence. This will improve the internal validity of the research (Yin, 2003).

In addressing the 'grand tour question one', sub question one, quantitative technique of factor analysis or mean score analysis would be used. Documents review, interviews and

usage of repertory grids can also be utilised to assist the quantitative analysis to identify the cultural and behavioural challenges and its root causes. These relevant data collected in the first phase would be analysed with content analysis, cognitive mapping and field force analysis techniques. By this process appropriate theory building will be carried out which will be modified in the next phase. Third phase will utilise group method analysis and theory building techniques to propose the roles and responsibilities of leadership to address the cultural and behavioural challenges in construction partnering projects.

7 CONCLUSION

Methodology provides sense of vision in fulfilling research objectives and it interplays between researcher and data (Strauss and Corbin, 1996). This paper discusses available research philosophies and approaches, while highlighting the appropriate methodology for the undertaken research. Epistemological undertakings and ontological assumptions of the research outlines the appropriate philosophical stance and further it guides towards the selection of research approach and research technique. This paper justifies the social constructionism stance and case study approach for the leadership study as the response to address complex relationships challenges of behaviour and culture in construction partnering projects.

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