EXPLORING THE 'HIDDEN' IN ORGANISATIONS: METHODOLOGICAL CHALLENGES IN CONSTRUCTION MANAGEMENT RESEARCH

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There has been recognition of the limitations of technocratic approaches to construction management research, and critical theorists in the field have often rejected prescriptive explanations of social phenomena. Thus, there has been a rise in the use of interpretive methodological approaches and a proliferation of qualitative research methods in the construction management literature. Still, interpretive research that requires interaction between the researcher and her informants often confronts the age-old, fundamental challenge that is posed to social science research: that is, what really does go on in organisations, beyond what is (and can be) said and seen? Through post-hoc reflection of a recent study into innovation in construction, it was found that multiple perspectives matter in shaping our understanding of how innovative practices manifests in construction. An observation was also made regarding the hidden agendas of senior management participants in recognising, rewarding and promoting innovation, which potentially contribute to disconnections between theory and practice of innovation in construction. Questions are raised as to how researchers can help articulate these 'hidden' agendas and methodological challenges discussed here points to the virtues and limitations of the ethnographic approach.

KEYWORDS: ethnographic research, interpretive research, innovation, methodological challenges.

INTRODUCTION

Researcher: Do you employ women on your construction site?

Site manager: We certainly do… we employ quite a lot of women here actually.

Walking around the site, the researcher noticed however that there was only one female toilet on a site that employed a few hundred workers during the peak of operations. Intrigued by this observation, the researcher proceeded to ask the site manager, "Just how many women do you currently employ on this site?" To this question, the site manager responded with "Six!"

This excerpt, taken from notes and recordings of casual conversations emanating from a research project investigating the nature of construction labour productivity (see Chan and Kaka, 2007), reveals the fundamental problem faced by many social scientists; that is, the verification of the reliability and validity of research findings. Had the researcher not consulted his sense of sight and subsequently mobilised to ask the site manager further questions, the true extent of diversity on the construction site in question and more importantly, the site manager's conceptualisation of just how many women is "quite a lot",

would have remained ‘hidden’ in the research process. Often, there is the danger that such ‘hidden’ aspects could result in incomplete findings being presented; at its worst, such findings could even be false. Uncovering the ‘hidden’ aspects in organisations is essentially important in the ensuring the integrity of research findings, especially in the investigation of social relations that are pivotal in the field of construction management. An attempt is made, therefore, in this paper to examine what researchers in construction management need to consider when addressing ‘hidden’ aspects in construction, in view of the growing interest in more interpretive and qualitative research in construction management. In particular, the focus of this paper centres on the virtues and methodological challenges of exposing such ‘hidden’ aspects.

The paper is organised in two main parts. In the first part, the key methodological debates in construction management research initiated by Seymour and Rooke (1995) will be outlined. It is suggested that challenging traditional, positivistic and rationalistic research approaches in construction management has resulted in increasing acceptance of more qualitative research. Yet, it is argued that a lot of qualitative research in construction management remains deeply rooted in positivistic traditions that maintain the supremacy of the researcher’s position to determine what is included or excluded in the conceptual frameworks that are produced in research. Thus, it is debatable as to whether there is a genuine shift towards more interpretive research in construction management and whether a holistic understanding of the relationship dynamics in construction remains the Holy Grail. The second part of this paper draws on the post-hoc reflection of a recent research project investigating the materialisation of innovation across all levels of a construction organisation. Through this reflection, the challenges of uncovering ‘hidden’ innovation in construction are discussed. These challenges include researcher resistance to operating in ambiguity and to keep an open mind, and material concerns over the time and effort needed to proverbially not leave every stone unturned. It is intended that the critique offered in this paper will help clarify key issues and pitfalls for construction management researchers confronted by the task of uncovering ‘hidden’ aspects in organisations.

BRIEF OVERVIEW OF METHODOLOGICAL DEBATES IN CONSTRUCTION MANAGEMENT RESEARCH

In this section, the development of methodological debates in construction management research is outlined. This discussion traces the origins of the debate on positive-interpretive divide ignited by David Seymour and John Rooke in 1995. They were especially critical of the predominance of positivism in construction management research as they called for a paradigm shift towards engaging in more interpretive, qualitative research to study social relations in construction. There is undeniably greater acceptance of qualitative research reflected in the study of a whole range of issues from gender relations to the understanding of construction risks, health and safety, and social networks. However, it is observed that many contemporary studies that purport to explore concepts in a qualitative manner still abide dogmatically with a positivist regime, often promulgating the perspectives of a narrow subset of stakeholders in construction, i.e. managerial perspectives (see Alvesson, 2002). Notwithstanding laudable developments in qualitative research in construction, restrictions placed by funding bodies (e.g. availability of financial resources) meant that deeper and richer examinations gathered from more time-consuming participant observations still remain the exception rather than the rule. It is suggested that this prohibits any effort to uncover the

'hidden' aspects in construction organisations, and researchers' aspirations to develop sophisticated conceptual models about the social world in construction remain futile.

Challenging predominance of positivism in construction management research

In the mid 1990s, a debate on research methodology was sparked amongst the construction management research community in the UK. Seymour and Rooke (1995) bemoaned the predominant rationalistic assumptions of the positivistic paradigm adopted by, and which they felt were becoming institutionalised and deeply embedded within, the construction management research community. This, and the increasing focus on understanding the culture of the industry at that time, prompted them to put across a message for an alternative interpretivistic approach, for they felt that "[…] the rationalists takes for granted the interpretative frameworks that are used to organise and communicate perception, thus effectively ignoring them. Instead of investigating the interpretations of others, they simply assert one of their own (p. 513)". They saw the problem as "[…] the rationalist paradigm […] does not require researchers to question their own position. Instead, rationalists put their faith in the use of particular methodological routines to guarantee their impartiality. The researcher's values are regarded as either irrelevant or self-evidently correct (p. 521)". Furthermore, they considered the egalitarian approach resulting from adopting the rationalist paradigm to be inappropriately dominant in attempting to understand the issues within construction management, since these locate within both the physical and social sciences.

When dealing with the social, philosopher Edmund Husserl (1970) warned against adopting the rationalistic (positivistic) paradigm in the study of humans, "[…] to be human at all is essentially to be a human being in a socially and generatively united civilisation; and if man is a rational being, it is only insofar as his whole civilisation is a rational civilisation, that is, one with a latent orientation toward reason or one openly oriented toward the entelechy which has come to itself, become manifest to itself, and which now necessity consciously directs human becoming (p. 15)". To paraphrase in a way amenable to Seymour and Rooke's (1995) argument, the dominant rationalistic paradigm is only rational insofar as the whole construction research and practitioner community is a rational community, and one in which its necessity is what Seymour and Rooke (1995) urged further contemplation. After all, human relations, along with its many peculiarities, are essentially vital in construction,

Critics of Seymour and Rooke's (1995) recommendation of adopting *verstehen* sociology in addressing meanings of human interaction have considered this to be too unwieldy, undisciplined and unscientific (Runeson, 1997). Others have criticised Seymour's *et al.* (1998) subsequent call for greater emphasis on "localised relevance in their accounts" by claiming this to be "consulting" and not research (Harriss, 1998). Still, Raftery's *et. al.* (1997) remarks sounded conciliatory: "[…] it is fair to say that the majority of research […] is in the positivist/rationalist tradition. Although it is worth noting that when qualitative methods have been used […] there has been no consequent attack on the method used (p. 294)".

Growing acceptance of qualitative research in construction management research

Since Seymour and Rooke (1995), there is progress in the development of more sophisticated analytical techniques in explaining the dynamics of social relations in construction. There is wider acceptance of qualitative methods and techniques like interviews and case studies

regularly feature in research reported in the field. Amaratunga *et al.* (2002) suggested that there is increasingly more research reported that uses strong qualitative methods, even though they contended that quantitative methods still predominate. A notable example of research that utilises strong qualitative methods include Dainty *et al.* (2000), who undertook 41 pairs of in-depth interviews with males and females working in 5 out of the top 20 construction firms in the UK to illustrate organisational career development issues, structural and cultural dimensions of careers in construction, so as to understand the limitations of the diversity in construction agenda.

Other examples include Hare *et al.* (2006) who conducted a literature review and a series of focus group interviews with experienced practitioners, which led to the development of a conceptual model that integrated health and safety considerations in construction planning. Baiden *et al.* (2006) interviewed managers of nine award-winning projects to examine the extent of team integration needed for successful projects. Lingard and Francis (2008) also adopted the interview technique; they interviewed 31 participants that originated from an earlier survey phase to explore adaptive strategies of working families in the Australian construction industry context. It must be added that 7 out of their 31 interview participants were domestic partners, thereby extending perspectives to include the personal lives of those who work in the industry, which is rare in studies reported in the construction management literature.

The use of qualitative methods in construction management research has seen increasing sophistication over time. Sustrina and Barrett (2007) adopted rich picture diagrams co-produced between researchers and stakeholders to model case studies of construction projects. Another area that has seen much sophisticated development is the exploitation of social network analysis in construction. Pryke (2004) found social network analysis appealing because it allowed for a more accurate and dynamic exposition of project structures and process that sheds light on "networks of contractual relationships and networks of performance incentive relationships (p. 795)". Other researchers have also employed social network analysis to examine the interactions between people in construction. Swan *et al.* (2001), for instance, explored how trust manifests in construction in their quest to develop a trust inventory for construction as they sought to identify key players where trust matters. Others have attempted to see how innovation happens in the web of inter-personal relationships that evolve across typical supply chains (see e.g. Dodgson *et al.*, 2008).

The missing link of participant observations and engaged scholarship

The critique provided by Seymour and Rooke (1995) signified a turning point in the way research in construction is undertaken. They challenged the dominant positivistic research approach adopted by construction management researchers and argued that idiosyncrasies associated with understanding social relations in construction have to be accounted for; asserting "[…] the objective of practitioners, for example, quality, efficiency, productivity or profits, cannot be taken to be self-evident by the researcher. An essential purpose of research is to establish what participants in the situation under study, managers, engineers or steelfixers, mean by these terms and what values and beliefs underlie such meanings. Researcher may well share some of the understandings of some of the participants, but it is imperative that they suspend their own understandings. Only by doing so can they allow practitioners to speak for themselves (p. 522)".

However, far too often, the voice(s) of all participants in construction across various organisational levels remain silenced in the research findings. For example, Hare's *et al.*

(2006) selection of experienced managerial practitioners to participate in their focus group discussions on health and safety in construction planning meant that the perspectives of other practitioners, e.g. less experienced workers who would actually benefit from improvements in health and safety, might have been excluded. Similarly, Baiden's *et al.* (2006) collaboration with managers of award-winning projects might have neglected richer stories of what might really happen in practice from those who delivered those very projects at the grassroots. Sustrina and Barrett's (2007) rich picture methodology also runs the danger of researcher's imposing their own position without articulating their value system transparently. Even the sophistication of social network analysis requires some level of researcher discretion in 'quantifying' relationships that can result in a somewhat simplistic analysis (Pryke and Pearson, 2007). Furthermore, the reliance of the interviewing technique as the dominant form of qualitative research in construction runs the risk of participants offering an idealised account, thereby hiding the details that matter in reality (Alvesson, 2002). Thus, researchers have often considered the need to triangulate using multiple methods to strengthen qualitative analyses with quantitative methods (see Amaratunga *et al.*, 2002).

Nonetheless, the need for expedience can often compel researchers to succumb to over-simplification and reductionism when reporting their research findings (see e.g. Alvesson, 2002). In principle, researchers should maintain a wider long-term view of the issues faced by the industry and not consumed by short-term, quick fixes. Yet, the pressures of meeting research funding requirements and increasing commercialisation of academic work constantly creates hurdles in attempts to adopt more interpretive research approaches that are often time consuming. Baiden *et al.* (2006), for instance, emphasised the need for adopted methodology to "[…] create typologies, find associations, and seek explanations for the emerging phenomena. It also allows the sifting, charting and sorting of data into key issues and themes and enables rapid comparison of research findings across cases investigated (p.16)." It is not surprising therefore that quick wins are often sought through quantitative analysis obtained through surveys or a 'grab-and-go' approach to analysing case study material, rather than the notion of engaged scholarship (see Van de Ven, 2007) through much slower, but richer and deeper ethnographic methods.

Indeed, deep ethnographic studies in the field of construction management are becoming increasingly rare. Examples include LeMasters (1975) seminal work exposing the personal lives of construction workers stemmed from intensely, if covertly, observing the behaviours and capturing the conversations of patrons at a working-class American tavern over a five-year period. Elsewhere, Michael Burawoy's own involvement as a worker in industrial workplaces across Zambia, Chicago, Hungary and Russia provided fruitful insights on the changing nature of workplace organisation, particularly focussing on post-colonalism and the transition from state socialism to capitalism (see Burawoy, 1998). Unlike many studies examining social phenomena in construction that can often result in prescriptive, if speculative, recommendations for government and corporate policy-makers, it is interesting the examples of LeMasters (1975) and Burawoy (1998) sought only to describe the state of affairs. But, in so doing, they have diligently sought to uncover aspects that would be otherwise 'hidden' if conventional quick-fix methods are perpetuated. Bruno Latour, a sociologist who specialises in the study of science and technology and founding member of Actor-Network-Theory, warned against social scientists' endeavours to merely contribute to policy recommendations as an outcome of social science research (see Latour, 2007). Instead, Latour (2007) contended, it is far more fulfilling and honest to trace the associations that matter between subjects and objects, humans and non-humans, and describe how these associations help shape our understanding of the social. Accordingly, this "reassembling of

the social" provides a more holistic picture of social relations that can be helpful in efforts to uncover the 'hidden' aspects in organisations. There is clearly more scope for doing this in construction management research. We will now turn to a recent study into construction innovation to examine the critical issues one encounters in doing so.

REFLECTIONS OF A RECENT STUDY INTO CONSTRUCTION INNOVATION

The motivation behind the study derived from the second author's frustration when working in the product manufacturers' sector of the UK construction industry. Her personal background is diverse; having worked in a sales environment for the pharmaceutical and healthcare industries, she became alarmed by the resistance to change and new ideas by her new co-workers in the construction sector. Inspired by the writings of Woudhuysen and Abley (2004), she was convinced that the construction industry mostly lacks the drive for innovation and wanted to explore reasons for this problem. This was of course not a new line of inquiry. However, at the time, the National Endowment for Science, Technology and the Arts (NESTA) published a report in 2007 entitled *Hidden innovation*. NESTA (2007) argued that some sectors that were considered to be 'low innovation' sectors, including the construction industry, were potentially undertaking innovative activity that did not fit conventional policy definitions of innovation. Therefore, the study evolved into an investigation of where innovation happens across a typical construction supply chain. It must be added that the second author was working as a project manager in a glass manufacturing company that provided products and services for the construction industry. So, her line of work necessitated collaboration with architectural and engineering designers and contractors, managers and operatives in the delivery of construction projects.

The research inquiry encompassed a series of interviews with managers (senior, middle and line) and a range of operatives working for the product manufacturer, contractor and subcontractor organisations. A total of 20 interviewees participated in in-depth interviews lasting between 1 and 2 hours, aimed at uncovering multiple perspectives of what innovation really means in practice, the implications of such innovative practices on business and individual performance, and the critical issues surrounding their perspectives of innovation (see Littlemore and Chan, 2009 for more details on methodology). Another critical feature of the methodology consisted of the participant observation process engaged by the second author. Emergent findings were regularly discussed at meetings with the first author. This section will highlight two of the critical findings – namely the *commonalities in defining innovation*, and the *discrepancies in recognising innovation* – for the purpose of highlighting the challenges of uncovering the 'hidden' innovation in the observed context.

Commonalities in defining innovation

One of the most striking findings made is how similar the term innovation was defined by participants across all levels of an organisation. Whether the definition came from a senior manager/director or an operative at the grassroots, the key characteristics of novelty and exploitation featured in the innovation literature (see e.g. Dodgson *et al.*, 2008) seemed to be corroborated by the interview data. So, Participant G, a senior design manager at a contractor organisation suggested that "Innovation is trying to bring new processes and products into the business that will allow us to build more efficiently and preferably more quickly." At the same time, Participant D who manages health and safety at the same organisation indicated that innovation was "[…] probably finding a new way or an improved way of doing

something that you were doing already it's not inventing something new necessarily it's just finding a better way." In a simpler way, Participant K, an operative working for a subcontracting organization stressed, "Moving on, new ideas which truthfully I'm all for. It makes the jobs a lot easier for people to do because the way things are at the moment time is money."

However, aside from the definitions, the way innovation materialises in practice for each of these participants can differ somewhat. For operatives, as alluded to by Participant K, the raison d'être for innovation is to make jobs a little easier for people to do. This was supported by an example provided by Participant C, a charge hand at a subcontracting organisation, "One lad has started to build a storage bay for the card board boxes. It's generally speeding up the floor by putting materials altogether." For Participant D, because managing health and safety was his line of responsibility, innovation was exemplified in "Toilets… on all the mirrors there is a sticker on all the mirrors saying you are looking at the person responsible for your health and safety just to reiterate and that is on every mirror in the building." On the other hand, the exploitation of new technology was, for Participant I (Construction manager of the contracting organisation), of critical importance: "I don't know whether you have seen the XXX building I didn't like the idea of scaffolding round a curve be of all the facets you have and the open edges so we have used Mobile Elevated Working Platforms (MEWPs) and its not something that I've ever done before as a company we could be using MEWPs on a lot of projects but we're MEWPs throughout so we are having to programme so as every time someone's finished with a MEWP which is the elevated platforms then someone else is ready to come and use that again. So we try to make that as economical as scaffolding would have been but for me a lot safer."

What is critical in the observations made here is how participants at every level of an organisation can easily relate to the notion of innovation and readily identify an example of innovative practice for researchers to chew upon. Of course, we may never know whether these stories represent an idealised account of innovation. However, much of the innovation literature have often only valued innovation from the performance basis of policy and managerial perspectives, usually couched in some form of comparable metrics that can then be used to measure one's competitiveness at the macro level (e.g. patent activity and R&D investment). A corollary of this is the neglect of innovative practices that could potentially happen at the grassroots, and researchers who do not actively seek out such examples simply banish such innovative practices into the 'hidden' domain. Uncovering 'hidden' innovation therefore requires, first of all, the researcher's recognition that such practices exist. This was certainly enabled by the researcher's personal participation in the context of this research project. Nonetheless, the recognition of innovation, particularly 'hidden' innovation is not always unproblematic, a point which we shall now turn to in the next section.

Discrepancies in recognising innovation

When discussing recognition of innovation, it is interesting to come across the phrase "a pat on the back" in some of the responses. So, Participant J, a mechanical engineer working for the contractor organisation, he noted, "I think it is recognised if you've come up with an idea you know you get a pat on the back sort of thing but it's a superficial reward. That's what you are paid for at the end of the day I suppose." Another construction engineer from the same organization, Participant L, also shared this view, "You might get a pat on the back but I don't think you get rewarded." For Participant F, a site engineer, "[…] getting a job finished quicker without any problems" was considered to be an adequate reward. Interestingly, the contractor organisation that Participants F, J and L all work for does have a system of

rewarding innovative practices by means of a bonus scheme. However, when these participants were asked about the awareness of such a scheme, they unanimously claimed no knowledge of this. In fact, they had all thought that the "bonus" was for finishing the work much quicker, and not for "innovation".

Another observation was made regarding the disconnection between senior managerial discourse on innovation and the material concerns exhibited by the grassroots. For senior management of the contractor organisation, the idea of innovation was often used as a marketing tool to promote to prospective client organisations on how their supply chains seamlessly gets involved in generating innovative products and services. However, such seamless integration is far from the reality of ad hoc interventions outlined in the preceding sub-section where participants come up with 'innovative' solutions out of necessity of the job. This observation was only made possible because the researcher deployed on this project was a participant observer working for the supply chain. Had this not been the case, this disjointed aspect of innovation thinking would have escaped the research team and remained but a 'hidden' aspect of construction innovation.

CONCLUDING REMARKS

The complexities of social relationships especially in multi-organisational, project-based construction imply that it is likely that aspects of what goes on in reality could potentially remain 'hidden' from academic researchers. Shortcomings of the traditional, positivistic and rationalistic approaches that have dominated methodological approaches in construction management research have been acknowledged. Consequently, there is wider acceptance, and increasingly sophistication, of more qualitative methods in construction management research. Nevertheless, many of these studies remain doggedly positivist. In uncovering 'hidden' aspects in organisations, it has been argued, necessitates deeper ethnographic approaches that cut across various levels of organisational stakeholders. One such approach is participant observation.

Operationalising such an approach is far from straightforward though. From the post-hoc reflection of the recent project into construction innovation, a number of lessons can be learnt. First, it takes a certain degree of open-mindedness on the part of the researcher to broaden their perspectives. Had the second author not been convinced at the onset that innovative practices could have been 'hidden' especially at the grassroots levels in organisations, the concept of 'hidden innovation' would have remained elusive. Consequently, what would have resulted from a study into the reasons for a lack of innovation in construction would merely reinforce the rhetoric found in the extant literature and lead to yet another research project that does not add much value to the body of knowledge. Of course, the critical findings presented here have benefitted from the participant observation process undertaken by the second author, who is concurrently an insider. The discussion here does not consider the ethical implications; this will be considered in future publications. However, Rooke and Kagioglou (2007) and Van de Ven (2007) argued for researchers adopting interpretive approaches to first learn the ropes of practice before immersing in the observational process. Our findings have been enriched by the fact that an insider was involved with the participants in the process of shaping the mutual understanding of construction innovation across a supply chain. Arguably, this has made it easier for us to identify the pragmatic challenges encountered by those who work in the coal-face of practice. The outcome of the research, and the extent of uncovering 'hidden' aspects, might have been severely limited if the researcher was totally green to the field, e.g. a career scholar.

Indeed, the main limitation of the research project is the lack of time to undertake a truly longitudinal analysis of the issues. At some point, as pointed out by Alvesson (2002) *inter alia*, the research process has to conclude and the findings written up. So, there is a point in the process when categories have to be locked in and aspects revealed. Without a doubt, some aspects will remain 'hidden'. However, what is important is the ability for researchers to remain honest and transparent by articulating the limits of the findings. By placing these critical findings in the public domain, it is not the intention here to offer prescriptive explanations of the concept of construction innovation. Rather, the purpose is to describe, in Latourian sense, the phenomenon at the point of reporting; and in good academic manner, there is always room for further research. The uncovering of 'hidden' aspects in organisations will forever remain an emergent, lifelong learning process.

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