UNDERSTANDING THE IMPLEMENTATION OF NEW MANAGEMENT INITIATIVES IN THE CONSTRUCTION FIRM

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There has been a proliferation in recent years of new management initiatives in the UK and other construction industries, many of which have been associated with calls for transformations of culture within the firm and within the industry more generally. Yet, despite these initiatives, very little research has been conducted that has focused specifically on the mechanisms and processes by which such initiatives are implemented and how these are affected by factors associated with the complexity of project work and organisation. This paper sets out to add to knowledge in this area, by reporting on ongoing research in the UK designed specifically to focus upon the challenges of implementation and the problems of attempting to diffuse knowledge about new ways of working throughout the construction firm. The paper presents a discussion of the factors likely to influence the management of change in the construction industry and reports on the early stages of a research project designed to investigate the impact of new management initiatives.

Keywords: human resource management, knowledge management, managing change, organisational culture.

INTRODUCTION

An enormous number of new management initiatives have been developed and implemented in the construction industry in the last few years, in response to increasing client demands and expectations for more effective construction and delivery of new buildings. These initiatives are very diverse and include strategies for partnering, supply chain management, benchmarking, value management and the like. However, they share in common the notion that construction companies need to examine and improve their business processes and cultures if they are to implement such initiatives correctly and respond effectively to clients' demands for change.

Although change has become a major theme within the industry, there remain, however, considerable gaps in our understanding of the issues involved in implementing new practices and in effecting cultural change within construction firms (Bresnen and Marshall, 2000a). In part, this is because of the inherent complexity of organisational culture, which makes simple recommendations about how to effect change immensely problematic (Meyerson and Martin, 1987). However, it is also due to the difficulty of implementing and sustaining change in a project-based and contract-based environment, which poses considerable problems for the diffusion of new knowledge and learning (Bresnen *et al.*, 2002). There is therefore a need for research that systematically examines the factors affecting the adoption and implementation of new ways of working within the construction firm and how these

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factors are related to the firm's knowledge management and organisational learning capabilities.

This paper reports on ongoing research funded by the UK's Engineering and Physical Sciences Research Council which is concerned specifically with identifying and examining the factors involved in the management of culture and change in the construction industry. The research focuses more specifically on the human resource management and knowledge management issues related to the implementation of such change. It is based upon case study data from eight firms in the construction sector, selected to represent different types and sizes of firm and different positions within the supply chain. The research sets out to explore the nature of change processes in firms of different sizes (small, medium and large), as well as firms engaged in different types of activity (manufacture, specialist supply, design and build, and engineering).

Preliminary findings are presented that start to explore the ways in which construction firms attempt to grapple with the problems of managing change when implementing new management initiatives (such as partnering and design management practices). Also, how organisational factors facilitate or inhibit the ability of construction firms to implement new working practices. The research is designed to examine what managers have done in these firms to articulate and effect their vision for change, how change is manifested in practical initiatives, tools and techniques, and how these have been interpreted, moulded and acted upon by the people and groups they are intended to affect. Attention is focused on what managers see as key issues and concerns of managing change and the problems they face in attempting to diffuse knowledge and learning within the context of the construction firm.

The paper starts by presenting the background to the research and outlining the research aims and objectives. It then goes on to discuss the main principles of the research design and methodology. As the research fieldwork is still in its early stages, the paper is able to present only preliminary findings. However, these are used to draw out some of the main implications and conclusions of the research so far.

BACKGROUND TO THE RESEARCH

A number of recent, prominent, government-sponsored reports such as *Constructing the team* (Latham, 1994) and *Rethinking construction* (Egan, 1998) have called for radical change in the way that the construction industry operates. The Egan Report, for example, draws upon advances in manufacturing best practice to call for improvements in quality and efficiency by the creation of more integrated project processes of product development, project implementation and partnering in the supply chain. Across the industry, the call for more efficient, effective and integrated project processes is echoed in a wide range of industry and government initiatives, including the DETR-sponsored Movement for Innovation and the EPSRC's Innovative Manufacturing Initiative.

As a result, a large number of industry-wide initiatives have emerged in recent years, which have aimed to provide construction firms with the knowledge and expertise needed to become more innovative, efficient and responsive to client needs. These initiatives have included, amongst others, partnering and supply chain management, standardisation of products and processes, benchmarking and continuous improvement programmes, and risk management. The extent and impact of these initiatives is shown by the enormous amount of interest sparked off by programmes such as the Construction Best Practice Programme (DETR) and the Construction

Productivity Network (CIRIA). Industry commitment to change is also well demonstrated by networks – such as CRINE and ACTIVE – set up to promote the diffusion of best practice.

Such new management initiatives are, of course, very diverse. However, they do share in common the underlying presumption that a change in culture is needed that brings construction practice more in line with best practice and current thinking in other industrial sectors, especially manufacturing (Bennett and Jayes, 1995). It is therefore believed that construction firms can improve their competitive performance by reconfiguring their business processes and applying experience and innovative techniques from other industrial sectors (e.g. Gann, 1996; Fernie *et al.*, 2001). Having said that, there remain important gaps in understanding of the issues involved in implementation and in the problems of attempting to effect any such cultural change across different contexts (Bresnen and Marshall, 2002). In particular, there is very little research available that attempts directly to explore the psychological and social aspects of change (Bresnen and Marshall, 2000a). Indeed, recent overviews of research in construction have highlighted the pressing need for further research into, broadly speaking, human resource management aspects of change (EPSRC, 1999). Research on partnering, for example, has shown that achieving its potential benefits depends upon sustaining a number of behavioural and attitudinal changes to support collaboration in the long term (Barlow *et al.* 1997; Bennett and Jayes, 1998; Bresnen and Marshall, 2000a, 2000b; Holti and Standing, 1996).

Moreover, while research has frequently stressed the importance of changing attitudes, beliefs and values to support the introduction of new initiatives, this is not the same thing as explaining how it is achieved. Prescriptions for change can often fail to trace through the behavioural consequences of new management initiatives, with the consequence that recommendations for 'best practice' fail to capture the social realism that is required to make them understandable to practising managers and relevant to their circumstances. Moreover, the implementation process itself is often overlooked, with the presumption that changes diffuse by simply 'cascading' throughout the organisation. Such an approach downplays the complexity of the *context* of change and difficulty of developing appropriate *processes* of managing change (cf. Pettigrew and Whipp, 1991). An important missing element in research is therefore an understanding of the factors influencing processes of diffusion, take-up and implementation of new ideas.

At the same time, there has been a more general proliferation of interest in the manageability of knowledge and organisational learning in recent years (e.g. Nonaka and Takeuchi, 1995). However, the mainstream management of change literature, while emphasising the importance of human action in the processual aspects of change, appear not to address the importance of knowledge in change processes, or the social dimensions through which knowing occurs in the organisation. There is a clear sense in which processes of generating, diffusing and implementing new knowledge in the form of new management initiatives is closely associated with the problems of managing change (cf. Blackler, 1995). Important insights may therefore be gained by approaching the problem of managing knowledge or organisational learning as a management of change issue. Conversely, important insights may also be gained by looking at the problems of implementing change to working practices, attitudes and values as a knowledge management or longer-term organisational learning issue.

RESEARCH AIMS AND OBJECTIVES

Previous research in construction management has explored the transferability of new management ideas from other sectors into the industry, concluding that there was a tendency to ignore change as a highly socialised process, and subject to psychological, social and political influences (Bresnen and Marshall, 2002). In this study, while the source of the initiative is clearly an important part of the context in which knowledge is diffused, our attention turns instead to the social, behavioural and organisational processes involved in the diffusion of knowledge *within* the organisation. The ultimate aim is to help understand why some ideas are able to take root while others wither, and how circumstances specific to construction organisations exacerbate or mitigate these influences.

Attempting to explore fully the problems involved in implementing all types of new management initiatives is very ambitious and beyond the scope of the research. However, a start can be made by identifying and examining the factors that influence the types of knowledge and expertise required, and the impact that these have on the practical implementation of certain types of initiative within different organisational contexts.

The research being conducted to explore these issues aims to identify and examine the factors influencing the implementation of new management initiatives within a range of different types and sizes of construction firm and across a range of related initiatives. Particular emphasis is being placed on charting the impact of human resource management and change management practices influencing the development and implementation of new management practices and ways of working. The specific objectives of the research are:

- To identify and examine the factors encouraging and inhibiting knowledge management and culture change strategies needed to implement new management initiatives within construction firms
- To identify human resource management and change management practices supporting such initiatives and to assess their impact upon the diffusion of knowledge and learning throughout the organisation
- To generate analytical tools and practical recommendations that firms can use to improve their ability to implement and manage new initiatives.

RESEARCH DESIGN AND METHODS

In order to fulfil these objectives, a research strategy has been designed which allows an in-depth, qualitative investigation into the factors involved in the implementation of change initiatives within the construction firm. While much existing research in construction has taken the project as the unit of analysis, this research takes the *organisation* as the unit of analysis, focusing upon internal management practices and policies. The research plays particular attention to examining crucial within-firm cultural similarities and differences and their effects, especially those pertaining to the interface between site-based and office-based staff, and to the existence of different organisational ‘sub-cultures’.

A further important feature of the research is the emphasis on comparing and contrasting approaches to change found in different types and sizes of construction firm. Many recent initiatives in construction draw heavily upon the experience of large-scale firms, often in particular sectors – partnering in the oil and gas sector is

one example. As a result, the effects of organisational size tend either to be ignored or assumed to be neutral. However, there is good reason to suppose that such differences matter, and it is therefore a feature of the research design that a case-study organisations representing a range of different types and size of construction firm were selected. Given the contractual nature of business conducted in the industry, it is also interesting to examine organisations at different points in the construction industry supply chain.

For these reasons, eight firms were selected representing a cross-section of construction industry organisations. Specific individual senior managers within each firm acted as 'gatekeepers' for gaining research access to the organisation. These case-study organisations cross-sect a number of variables, including size, market and type of construction firm. Four of the organisations are national contractors ranging from the large to the very large, two of which specialise in building and civil engineering contracts at a national and international level, while the other contractor specialises more in process work for the oil refining and petro-chemical industries. A further large organisation provides consultancy services, including engineering design, project management and facilities management. The case-study organisations also include three small to medium sized firms. One of these is a specialist process engineering contractors, supplying the oil, gas and chemical industries; one firm is a supplier of air management systems; and one is a very small specialist supplier of integrated control systems.

In order to investigate the experience of these organisations in implementing change, the first stage of the research was to identify a specific management initiative within each firm which is either ongoing or recently implemented. The criteria for selection are that this is a new management initiative representing a significant change to working practices, but the size and scope of which can be manageably researched within the context of a two-year study. The change initiatives selected are varied, in order to investigate the different factors involved in implementing change across different types of initiative (for example, from IT-based to more people-centred managerial initiatives). However, all of these initiatives are concerned with cultural change to some degree, stressing the importance of changing attitudes, beliefs and values. Indeed the driver for some initiatives is specifically about changing the culture of the organisation in order to make lasting changes to working practices and the attitudes and values underpinning them. The initiatives include:

- a design management initiative, aiming to achieve greater collaboration and efficiency between members of the supply chain in the design process (Company A: a large building and civil engineering contractor)
- a project performance management tool, designed to help project teams plan ahead against an assessment of current progress (Company B: a large building and civil engineering contractor)
- a continuous improvement programme, which aims to empower the workforce to make improvements to working practices (Company C: a large process plant contractor)
- a new estimating system, integrating greater use of IT-based systems with more traditional labour-intensive methods of estimating (Company D: a large process plant contractor)

- the implementation of an IT-based extranet to facilitate real-time collaboration between different organisations involved in all stages of the construction project life-cycle (Company E: a large engineering design services consultancy)
- a risk management system, using diagnostic checklists and software-based tools to track and manage the financial risks associated with construction projects (Company F: a small process plant equipment supplier)
- the implementation of partnering strategies, focusing on the fostering of partnering culture within the organisation (Companies G and H: two small specialist equipment suppliers)

There is clear potential within the range of these initiatives both to look at the similarities between what certain initiatives aim to achieve and their differences. Dimensions across which the initiatives will be compared include the scope, scale and stage of implementation, funding of the initiative and levels of managerial involvement in their implementation, and the degree of 'hardness' (e.g. is it more IT or tool-based) or 'softness' of the initiative (e.g. is it more about managing relationships).

In order to conduct the research, the principle method used is semi-structured qualitative interviews with individuals at a range of levels in the organisation, from the leaders and managers responsible for implementing changes to those affected by the change initiatives themselves. Interviewees are also being selected in order to solicit a wide range of perspectives and views on the change process. Representatives from the firm's different function and professional groupings are therefore being sought, as well as a cross-section of individuals who have differing attitudes towards the need for change. An average of 15 interviews will be conducted per firm, which will be supplemented by a questionnaire later in the research process to a wider sample within each firm. In addition to the use of interviews, questionnaires and direct observation, the methodology also incorporates the use of research workshops to gain the input of key contacts into the research design and to feedback results as they emerge. At the first workshop held early in the research, representatives from each of the case-study organisations were invited to present on recent change initiatives within their organisations. Presentations described a variety of top-down, bottom-up and middle-out approaches to change, some organisation-wide and some more specifically localised. The content of these presentations provided valuable information about the context of change within each firm, as well as generating some early data.

PRELIMINARY RESEARCH FINDINGS

So far the findings on which the research is able to draw are limited to the initial interviews which have been conducted with our principle contacts in the organisations, and the first research workshop, where representatives from each of the firms talked about their experiences of change. However, discussions so far with respondents at each of the companies do suggest that, while managers are able to explicate their vision for change through the formulation of models and appropriate tools, there is little appreciation of the complexities and complications arising from the social dimensions of change. Managers often find it difficult to assess why some of these ideas are taking root, whereas others are proving to be more difficult to roll out across relevant parts of the company or to impact upon people's values, assumptions and working practices.

Unsurprisingly, the size of the organisation is seen to have a bearing upon managers' ability to drive through certain types of change. Managers in the larger contracting firms talk about organisation-wide change in much more problematic terms than do managers in the medium-sized to smaller companies. Relative ease of communication is cited by the managers of smaller companies as a factor which facilitates attempts to deliver a unitary message on the strategy of company and its approach to business. However, even in those cases, problems of an explicitly political nature are also encountered. In Company G, for example, efforts to instil a partnering approach that required a more participatory management style were seen as being inhibited by the autocratic style of senior operations managers. The result was the removal of two senior operations managers – including the operations director – and the use of external consultants to recommend these changes within senior management, thus helping legitimise the change. Similarly, in Company H, a statement of values that had been drawn up by the MD was used to articulate the reasons for the removal of a sales engineer, whom it was felt did not share the company's vision and who was adopting a 'traditional' approach to sales (i.e. winning business by 'cutting deals').

The picture is evidently more complex than being simply a matter of the size of the organisation. The nature of the initiative (a root and branch cultural change or a bolt-on business process?), the extent of its intended effect, and the scope of its reach (organisation-wide or more localised?) are further factors which are influencing the ease or difficulty of rolling out these initiatives. The most extreme case in this respect is probably Company C, where continuing cultural integration across five formerly separate businesses is the major on-going task. However, other cases illustrate problems to do with the scope and depth of change (especially perhaps the smaller cases). The origins of the initiative within the organisation also affects the process: where the initiative has strong commitment and 'buy-in' from the leadership of the company (e.g. cases D, F, G and H), change appears to have been more easily driven through the management structures and hierarchies of the organisation. Where the initiative has emerged from one particular group or business unit and is intended to affect a part of the business not under that group's direct control (cases A, B and E), then the process of implementation has become a much more difficult and complex problem.

Not surprisingly, in the larger companies organisational structures often prove difficult to transgress. In early discussions with senior contacts in each firm, 'barons', 'fiefdoms' and 'silo-mentalities' were some of the words used to talk about the difficulties of implementing change and overcoming perceived resistance to change. Far from dealing with unitary organisational cultures, managers have had to adopt change strategies to affect the working practices of different functional groupings and other professional constituencies. Among the cases, there have been numerous examples. In Company D, for example, the estimating department was perceived as a 'fiefdom'. Changes introduced not only led to a smaller estimating department (from 10 to 4 people), but also to the supposed removal of the hierarchical management structure within the estimating team. However, work allocation practices continued to be handled in a hierarchical way, leading to the re-emergence of former practices and some resultant dissatisfaction within the team. The other interesting case in this respect is Company F, where the introduction of new management initiatives for improving project management took place against a backdrop in which the engineering group within the company was powerful and dominated project management processes. The result was a conscious attempt to re-balance the matrix

system away from functional home bases and more towards project management. In the process, significant problems were faced, including resistance amongst senior engineering managers within the company.

The above cases are ones in which implementing change was obviously made difficult by cross-functional and/or cross-professional differences in values and norms. However, evidence was also found of the constraints and problems caused by attempts to roll out and implement functionally or professionally based initiatives into the realm of mainstream project operations. Mention has already been made of problems in this respect at Company A, which highlight the difficulties in embedding functional initiatives in mainstream project operations. Perhaps the best example, however, comes from Company B. In this case, managers reported that there had often been resistance to the implementation of group-wide initiatives in one regional operational division, which stemmed from perceptions that they were attempts to impose change on what people in that division felt was the historical 'hub' of the company. Moves were in place to re-organise senior management in a way that reigned back power from that region. However, it was also reported that the success of the current initiative was due to the fact that it was centrally funded. The litmus test of the success of the system would only be when regions were required to commit part of their budgets to rolling out and training in the use of the tool. Symbolically, a system of traffic lights signified regions' readiness to implement the system (the region resisting the change was classified red!).

A final point to note here concerns the impact on attempts to implement change of the particular context of the construction industry. Most of the above discussion has focused on the organisation's internal organisational context. However, external relationships within the construction industry supply chain clearly have a bearing on the ability to drive through certain types of change. Particularly with regard to partnering initiatives, the case-study organisations following such an approach (Companies G and H) are finding that their efforts to adopt a partnering culture within their own organisations are limited by how their customers want to do business. Position in the supply chain is also clearly a factor in the ability of construction firms to implement certain types of change - the firms at the third and fourth tier removed from the client feel they have little direct influence on the market. However, other initiatives are also affected by the inter-penetration of relationships and systems amongst contracting organisations. The obvious other example here is Company E, whose plans for implementing the extranet depend crucially on acceptance of the system by the company's contractual partners.

Even though the research is at a very early stage, the results are therefore already starting to show how all stages of introducing such management initiatives – from the identification of a need, through to implementation – is a highly problematic process, involving complex relationships and issues of power and negotiation. From a managerial perspective – i.e. those occupying the role of change agents in the organisation – one of the first things managers have been saying is that while it is relatively easy to see what needs to be done, making lasting changes to working practices is difficult. Managers are not particularly attributing the difficulty to developing the 'hard' tools, systems, and processes needed to bring about changes in working practices, but rather the difficulty in making change stick is more to do with the 'soft' people-related elements.

Furthermore, there is an inherent tension in our case studies between the message and the means of change. While the changes being looked at need to be embedded and encultured in systems, routines, attitudes and behaviours in order to make them last, direction and leadership of the initiative is often being imposed in order to force the pace of change. Despite the best effort of mangers to create 'buy-in' to the change process by 'empowering' staff throughout the organisation, the default option is clearly a more top-down imposition of change. There is clearly a dominant model of command and control in all of the organisations, but it will be interesting to see as the research evolves whether the governance of these organisations is in conflict with the need to embed and 'enculture' change from the 'bottom-up'.

CONCLUSION

This paper has reported on ongoing research into the factors affecting the implementation of new management initiatives within the construction firm. As the fieldwork is in its early stages, results are limited to initial interviews conducted in the case-study organisations. However, the research so far has confirmed our expectations that the implementation of change involves a complex mix of social, political and behavioural processes within the organisation, which needs to be viewed in the wider external environmental and competitive context of the firm. The research will therefore continue to be strengthened with an examination of the cultural and political context in which knowledge of new working practices is managed, while the specific characteristics of conducting business within the construction industry remain at the forefront of the analysis.

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