LEARNING TO CHANGE IN THE UK AND US

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This paper studies a British and a US construction management organisation, each of which is regarded as forward thinking and successful, to determine what has enabled these organisations to change the way they, and the industry around them, does business. These companies were specifically set up to do things in a different way. It is this ability to work successfully with change that has been defined by government and industry reports as the necessity for the improvement of the construction industry for the benefit of all parties. The research involved interviewing a number of senior managers in the organisations using a participatory approach exploring the concepts of the 'learning organisation'. It was found that both organisations had clear visions based on strong values held by founding individuals that drew people to work for them who engaged with the world in similar ways. Further, the openness to thinking and learning – the organisational culture - was a key characteristic of these organisations that the individuals who were interviewed were able to relate with passion. The results challenge the notions of leadership and structure which abound in the strategic management literature and develop a more practical realisation of the needs for 'organisational learning' in strategic change.

Keywords: strategic change, organisational learning, success, innovation.

INTRODUCTION

In the UK, the realisation that "the construction industry is under-achieving both in terms of meeting its own needs and those of its clients" (DETR, 1998) is not new and has been a theme for over 50 years. Much has been written about what should be done; however, less has been written about what has been done. Indeed it is apparent that implementation of the 'good ideas' from past reports has not been successful from the continuing need for reports. Recently with demonstration projects and the Construction Best Practice Programme, the industry has started broadcasting its success. Hidden in this, is the assumption that new approaches will filter into the industry from the publicity of good and successful projects. However, there is a limited understanding of the relationship between individual projects, individual construction companies and the general construction industry. This study aimed to investigate how construction organisations have changed; that is, how they have worked with new attitudes and approaches, yet exist within the traditional construction industry (Belcher, 2001). Two construction organisations were studied: *Mace* from the UK and *DPR* from the USA, both considered to be amongst the best in construction in their own countries and committed to performance improvement. The research did not seek to compare the organisations and evaluate good and bad practices but sought to present the language and discourse, which sustain success. The research involved interviewing a number of senior managers in the organisations by jointly exploring the

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concepts of the 'learning organisation'. The relevance of these concepts of learning to creating organisational change will be discussed. This participatory approach to research (Reason and Rowan, 1981a) was designed to elicit deeper meaning in situations, and the different perceptions of reality that exist, in order to engage with, communicate and interpret motivation in the organisational design and practices. Using quotes from the participants, the characteristics of these organisations that have enabled their success are shown.

CHANGE AND LEARNING

The change that is of interest here is strategic change, that is major structural, procedural and relationship changes which are sustained. In the strategic change literature (e.g. Carnell, 1997; Leigh, 1988), the focus is mainly internal to the organisation itself. Mostly these are large, corporate manufacturing organisations which have a substantial existence in themselves and which to some extent can be regarded as separate from their environment. They deliver products or services into this environment and the change involves doing this fundamentally differently inside in order to improve efficiency and profit.

In the construction industry, organisational change cannot be so easily separated from the environment. The work of the industry takes place in projects that by their nature are separate from the organisations. Projects do not involve one organisation but many and so unlike manufacturing the boundary between the organisation and the project is fuzzy. This project arrangement has been called the Temporary Multi-Organisation (TMO) (Stringer, 1966) and because of the transience of this, formal arrangements and informal operations are set at an industry level, rather than an organisational level, to provide continuity between projects. Thus, the industry arrangements drive projects and projects drive organisations to behave and operate in particular ways. It would seem necessary to change the industry before changing organisations. Thus, the authors believe that what is needed for change in construction is much more than demonstration projects; it is the building of organisations with alternative values, behaviour and attitudes that are successful in the current industry. The organisations studied here fall into this category.

Significant change does not just happen from a good idea; change requires people and organisations learning to change. Learning involves a personal change in outlook not just an acquisition of more knowledge (Bannister, 1981). Change cannot just be ordered as this only yields perfunctory action. It is deep practical change that is important rather than espoused change i.e., that you think differently about what you do (Stata, 1989). Consequently the authors are of the opinion that the much espoused business management concept of 'organisational learning' offers a framework for thinking about such organisational change.

Senge (1992) brought the notion of 'organisational learning', (or the 'learning organisation') to the fore. Organisational learning is the process by which organisations and the individuals within them continue to develop their capability to do things differently (Dawson, 2000). Organisational learning involves a new attitude and approach to work in an organisation (Pedler *et al.*, 1996). This attitude sees all activity as an experiment; this means that different areas to work are actively sought out, that different ways of doing things are tested and overall there is a pro-active approach to dealing with situations containing uncertainty. Having undertaken an activity, there is a desire to learn from what went well and what could have gone

better. Thus, there is a positive acceptance that mistakes are made and things go wrong. There is a desire to understand the wider implications of an activity. All of this involves learning, i.e. accessing what was not known and communicating this. Double loop learning (Argyris, 1977) occurs when individuals challenge the assumptions behind their practice and clearly this level of learning is of interest here. When such a culture of organisational learning becomes the norm in an organisation it will be self-sustaining and facilitate ongoing and continuous adaptation (Senge, 1992).

There has been a little work on organisational learning in the construction industry. Boyd and Wild (1990) have seen learning as the fundamental skill for construction managers. Boyd and Robson (1996) have studied a method for enhancing double loop learning in construction. Kululanga *et al.* (2001) have promoted the learning organisation concept in the construction industry and have tried to measure contractors abilities to do this. Barlow and Jashapar (1998) and Holt *et al.* (2000) have related the learning organisation to the development of strategic alliances in the industry. What is implied in all these studies is that construction organisations require a huge change in behaviour and culture to become 'learning organisations'. Traditional practices have to be unlearnt and 'reconstructed' so that innovative and continuous improvement can be encouraged and become the norm.

RESEARCH DESIGN

The two companies studied have very similar histories. *Mace* is an internationally based construction management consultancy, where it provides the professional management of the development, design and construction process, from project inception to post-completion aftercare. *Mace* is somewhat peculiar in that it is not only a construction manager but also has a general management consultancy. Five Directors who had previously worked together at Bovis founded the company in 1989. Since then it has grown organically from 20 employees to around 700 people in 2001 based in 10 offices throughout the world. It has an annual fee income approaching £40 million and its construction projects include some of the largest, most complex and high profile projects in the world, most notably in Britain the 'London Eye'.

In a similar way, *DPR Construction* is one of the fastest-growing general construction contractors and construction management companies in the United States and specialises in technical building projects for six industrial sectors: health care, biotechnology, pharmaceuticals, microelectronics, entertainment and corporate office development. Unlike *Mace,* it employs many of its own site staff. This, mainly West Coast USA based, contractor was set up 11 years ago in Redwood City by Doug (Woods), Peter (Nosler) and Ron (Davidowski) (hence the 'D', 'P' and 'R' of the company's name) having worked together at Rudolph and Slutten. Its work in the new economy of Silicon Valley allowed it to grow to a $1.5 billion organisation by 1998. Today the company has around 3,000 employees based in 17 offices, opening its first overseas office in Singapore in 2000.

Three senior members from each organisation were interviewed (see Table 1). The CEOs were both founder members of the organisations, the others were appointed subsequently thus have a different commitment to the organisation. The inquiry used the ideas of the learning organisation outlined above to enter into a dialogue with these people about how these organisations learned to do things differently. This study distilled from the extensive literature on organisational learning a conceptual framework involving the concepts of: *Organisational strategy and vision*;

Organisational structure; *Organisational culture*; *Leadership*; *External awareness*; and *Knowledge creation and transfer*. The value of using a conceptual framework rather than just asking questions concerns the depth of access to information that is required. In this we want to step into the mind of the interviewees (Bannister, 1981) and perceive their organisation's construction, operation and development. This requires a strong engagement between the researchers and researched which does not come about simply through interviewing which is a one-way process. Deeper engagement is only possible if the researched sees the activity as worthwhile. They will do this more if they get something from the interview; in this case a new meaning for their organisation (Rowan and Reason, 1981b) based on the learning organisation, which is comprehensive and challenging. The danger, in conventional research terms, is that the researched will change their perceptions as a result of the engagement and/or be overly influenced by the researchers proffered concepts.

Table 1 Interviewee Details (All undertaken 2001)

Mace		**DPR**	
Bob White	Chief Executive	Pete Nosler	CEO
Adrian Wheeler	Birmingham Operations Director	Dan McIntosh	Denver Operations Director
Kath Knight	Human resources	Lou Bainbridge	Human development

The dialogue progressed by the researcher seeking the interviewees understanding of the components of the conceptual framework; following this the interviewee described what they saw as the significance in these areas of their organisation. The final transcription was returned to the interviewees to ensure that this represented their intentions and beliefs.

RESULTS

The order of these results reflects the order of what was found most important to the respondents. It was clear that the conversations around the learning organisation concepts overlapped and the categories were not discrete.

Organisational strategy and vision

Both organisations were set up by a group of strong minded and experienced individuals who had clear ideas of what they wanted. They had confidence in their visions and projected this. Newcomers to the organisations carry these visions.

Right back in the early days of the company, the founders' vision for *Mace* was to create a unique organisation that would avoid the normal British construction industry's confrontational approach. Today the goal is to be the best there is anywhere in the world at what it does for the best clients in the world. *Mace*'s publicly stated vision is to '*become a model of tomorrow's company, satisfying its employees, its customers and its suppliers; acting ethically and fairly in society, as well as making a decent return on the capital employed.*' The strategic blueprint for achieving this vision is now set down in what the company calls 'The Green Book'.

Adrian Wheeler, an Operations Director with *Mace* commented on the importance of vision and strategy to the company and the prevailing attitude to achieve that vision:

> "*Certainly the vision and the values are probably the most important feature in the business that gives you its sustainability. You've got to have strategy that's really clear and well articulated because without that you don't know whether you're doing the right thing. Mace constantly wants to*

bring the game along. It's not happy as an organisation in doing the same next time .… It was conceived on the basis that there is a better way of doing things; that attitude prevails still in the business quite strongly"

DPR was consciously set up to create a new kind of construction company that finishes buildings on time, on budget and in a collaborative manner. The broadcast purpose of the company is: 'DPR Exists to Build Great Things'; from this, the company's first mission statement became: 'We at DPR are on a mission to build a truly great company by the year 2000'; this they believe they have achieved. Now DPR's sights are set on becoming 'one of the most admired companies by the year 2030'. Nosler is convincing when he predicts: "I'm very optimistic that in 30 years we can be up there alongside General Motors or Disney or the like. It sounds absolutely incredible right now but look what we did in the last 9 years – why not?"

Organisational culture

Culture is a much-abused term. The recent literature does not recognise a single identity for an organisation, that is, every multi-personned organisation has multiple cultures (Wright, 1994). Further all organisations have a cultural dynamic as they are influenced by their existence. What we are after are those attributes that give the organisation its original identity and which sustain it through its enterprise.

When *Mace* people talk about culture they are referring to their approach to business with an attitude of having successful relationships in projects not just traditional contractual relationships. The origin of this approach was established when the five co-founders worked for Bovis on the innovative mixed-use Broadgate project in London in the late 1980's. According to White it was also the first time a major project in the UK had been achieved through 'construction management', and it established new ways of working - bringing construction-related knowledge into the design environment in the early stages of projects. Says White :

"For the project team it re-engineered us as guys. Once we'd been there and done it, been part of this new brave world if you like, we couldn't go back to what we were doing before so we decided to leave [Bovis] and set up our own business".

White continues about the company development:

"That was the basis upon which the company was set up and anyone who came in to the company in those early days was aware that that was what they were coming to – we were trying to establish a culture".

Mace wants to do projects that are challenging. As a consequence 'innovation' has been part of what *Mace* is famous for, which requires an ability to learn. Since mistakes will happen in this sort of environment it is very important to have a no-blame culture. Wheeler explains *Mace*'s attitude in this respect:

"There is an attitude and acceptance that mistakes will be made and that is actually an integral part of the learning process. What is important is not to make the same mistake twice and that's all about recognising that it was wrong in the first place. [It is important] therefore to create the environment where [people] can learn - 'we're going to make mistakes but this could create a wonderful opportunity' ".

This was an almost identical path to DPR, however their discourse on culture has as much to do with internal relationships as external operations. They have a very strong

commitment to their broadcast philosophy. There is an explicit rejection of hierarchy and roles, plus there is a positive commitment in the mission statement to having fun. On the company's list of four core values and beliefs, 'enjoyment' is preceded only by 'integrity'. The other values are 'uniqueness' and 'ever forward'. They see the satisfaction that comes from collaborating, sharing knowledge, and building great things as part of their business strategy. People, including the owners and directors, sit in open-plan workspaces where there are no walls, no cubicles, and no dividers. DPR believes that physical, as well as professional and functional roles can create needless boundaries between people and between disciplines. It is this internal culture that is projected out into their working practices. Bainbridge emphasises this:

> *"We're hell-bent on creating a very distinct culture. People joke about that but I think it was a high compliment when some of our competitors called us a cult - that we will behave in certain ways, we will think in certain ways, we have a passion, an aggressiveness and bullet-smartness focus."*

McIntosh, relates how this effuses through projects:

> *" We at DPR – and this is kind of what makes us different – we always stress enjoyment. 'You know what guys; we're going to be together as a group, spending more time with you guys than with our families – reality, sad but true – so how are we going to get al.ong? And let's do get al.ong, let's have some fun. Let's all work hard but let's loosen up a little bit too. We can be friends and still work together'.*

It would appear that the main problem with this issue of organisational culture is sustaining that culture as both companies grew both in numbers and geographically. Both see the limits of orientation programmes and spend more time on the selection of the 'right people'. 'Right' is less to do with technical skill or experience and more to do with, as Bainbridge relates '*what we're really trying to detect is [their] passion to do something great'.*

Leadership

Leadership induces much debate in the management literature (Gray and Smelzer 1989); it still has inbuilt notions of authority, direction and control yet current management theory is promoting its transformational role. Both of these are significant in our organisations. In *Mace* the concept of leadership has changed since its early days although still perhaps coloured by that initial style. White explains :

> *"in the early days of Mace, it was 'command and control'. When I got the job of CEO, I purposefully changed it to much more consensus management."*

Leadership is located in the Board that, in the main, consists of experienced project directors who have delivered very successful projects and consequently may be regarded as quite task-focused in approach. However this impression is somewhat tempered by Wheeler's perspective of leadership within Mace:

> *"I think it is essential for a growing organisation to have 'shared leadership' in that there are so many dimensions to business. You need to have champions for causes and people who are going to promote and develop particular dimensions of the business, and that is a form of leadership. …The aggregation of that leadership is the direction in which*

> *the business moves collectively and not just the particular direction one
> individual wants to push or pull."*

DPR takes leadership in a more diffuse way with the relationship between the founder and the satellite offices being less clear. It is the purpose and core values set strongly by the founders that lead the organisation. Within this framework the company has 'shared leadership' where everyone is expected to lead regardless of their assigned role; Nosler explains:

> *"... on a variety of different topics you could be a leader, whether its at the
> project level and its solving a particular problem or with some sort of
> corporate initiative".*

Bainbridge outlines the company's approach to developing this:

> *"Leadership' is debated within the organisation, but fundamentally the way
> we want to develop our leaders is that we want the individual to know and
> understand themselves first – they really have to get grounded with
> themselves. They need to get grounded with their family second, and then
> they're perhaps best prepared to be a business leader. "*

Organisational structure

There is much discussion in the change literature on the formal structure of organisations that relates to roles, how the business delivers its tasks and also how it communicates (Carnell, 1997). There are lots of examples of moves to flatter structures away from hierarchies. In both our organisations the importance of structure is somewhat downplayed although being more important in *Mace*.

Mace has a matrix structure that was developed from an initial hierarchical model. This belief in structure as an enabler of organisational effectiveness causes the continual search for the ideal in *Mace*. However, as Kath Knight reveals: "*the boss's joke is that we change our structure every year anyway and it doesn't make any difference".* This view of structure was taken up by Wheeler:*" I think structure becomes less important when you have self-motivated, self-managing people and the advantages are that these individuals become adaptable".*

DPR describes itself as a flat organisation taken to the extreme. This has been extended so that job titles are omitted from business cards with an emphasis on the individual. This arose from the way the company the founders worked for previously operated; according to Nosler:

> *"One of the things that we reacted negatively to was its hierarchy. It had a
> traditional construction hierarchy and there was a lot of effort put into
> defining jobs with precision .... To me the organisation that is learning-
> based is changing and if you talk about change as being something very
> pervasive, that kind of hierarchical structure won't work".*

Nosler acknowledges the conflicts between these ideals and reality:

> *"... Once you get beyond say 80 or 100 people in an organisation you
> begin migrating towards more structure, certainly toward command and
> control, just to manage the number of folks. ..... those principles [of shared
> responsibility and a spirit of collaboration] have a much harder time being
> carried out when the organisation gets too big."*

External awareness

The relationships between an organisation and external organisations are particularly important in construction. Much of the construction improvement literature in the UK focuses on meeting client needs. *Mace* puts a considerable energy into addressing this seeking to understand client business objectives in order to meet their needs. There is an emphasis on not only the product but also the process. As Wheeler explains: "*You can have technically the perfect project – on time, on budget, perfect quality – but not an enjoyable experience. Well – it wasn't a good project.*" As well as being very customer-orientated *Mace* also spends a lot of time and resources on communication with its contractors and suppliers, including working positively with its Supply Chain. *Mace* actively seeks feedback from its suppliers on its own performance and how it could do better. External awareness is also exhibited in *Mace*'s relationship with the wider business environment and its willingness to not only gain from that but to share as well. *Mace*, at a senior level, is committed to, and plays an active role in, the UK construction industry's Movement for Innovation as well as the Construction Best Practice Programme.

DPR has a different relationship with its external world. The fact that it employs some of its own site labour means that it relates to subcontractors through these people. However, uniquely it sees organisations in its environment, such as Sun Microsystems, Genentech, Pixar, Motorola, etc., as exemplars of success to be emulated. Nosler comments:

> "*DPR was born in Silicon Valley. We've been exposed to new ideas from the computer industry, from Stanford, from the gurus and consultants who migrate to this part of the world. Our clients have taught us a lot about issues of leadership and structure and organisational development issues.*"

Like MACE, DPR has a formal feedback session with their clients and other consultants which it calls a 'plus delta', or a 'lessons learned' meeting. Success requires not just them making money and being happy, but the whole team, particularly the owner, being happy and wanting to work with them again.

KNOWLEDGE CREATION AND TRANSFER

Knowledge creation and transfer are part of a new awareness of strategic change in organisations and are at the core of the learning organisation (Senge, 1992) and knowledge management (Dawson, 2000). To *Mace,* this issue of creating new knowledge and, equally importantly, sharing that around the organisation so that everyone can benefit is immensely important. One tool which does aid the process of sharing, as well as broader communication, is '*infomace*' which is the organisation's intranet system. Training and staff development is also a high priority, currently four to five times higher than the national average for the construction industry. White is clear that the transfer of knowledge is more complex and comments:

> "*The biggest problem with our business is that day-in-day-out there's some great bits of work being done and significant breakthroughs in knowledge and how things are done. I'ts happening all over the place with very good people, and its all lost - we're re-doing and re-inventing it… One of the biggest cultural changes for me is the willingness to exchange knowledge.* "

The culture of DPR starts with trying out new ideas, the 'creation of knowledge' with a commitment to share it. Bainbridge describes the DPR concept:

> *"DPR has something it calls the 51% rule which is another way to make sure that responsibility is shared in this issue of sharing, learning, communicating. What it says, essentially, is that if you have some knowledge or information, or insight, or just learn something, you really have 51% of the responsibility to share it with others. The other side of the rule is that if you need something - information, performance feedback, - you have 51% of the responsibility to reach out for it."*

To make this happen, DPR uses electronic communications but believes strongly in having workshops where people can share knowledge. There is no fear in investing money in this important aspect, as Nosler remonstrates: "to maintain communications, our airline ticket costs per person are probably the highest in the industry".

DISCUSSION AND CONCLUSIONS

It is tempting to compare these organisations and determine that one approach is better than another, but both these organisations are successful in their context and in essence their success involves all their features taken together. *DPR* started within an extrovert Californian environment, driven by innovative private sector clients who had resources and attitudes to do things differently. *Mace* exists in a much more introvert UK construction environment influenced heavily by government, bureaucracy and a much tighter concentration on cost. They do, however, share a number of common features that were determined from the interviews and these centre around their vision, culture and leadership. Both organisations were very clear about what they believed and this was set into a vision. This vision was more than a perfunctory set of management words but was held passionately by the individuals interviewed. The visions came out of the experience and beliefs of the founders. This vision was used both internally and externally to give identity to the organisations. The identity was part of the culture of the organisations which affected: the way the organisations operated, the way they developed and the way they promoted themselves externally. The willingness to be change agents was part of the organisational culture, such that this became the central competence sought in recruitment; the right person with the right attitude who was willing to stand up for themselves and invest their energies in success. The position of leadership was interesting in that there was a strong connection with the founding members in both cases. Other had taken up the cause and senior members were not frightened of holding power. This did not disable the organisations as individuals who were recruited were not frightened to challenge positions and indeed were invited to; thus it is this strong dialogue between strong people that seems to give these organisations a vibrancy in their decision making. Both organisations expect that individuals deep down accept responsibility and power as a positive virtue. The operation of the organisations is very fluid. They both believe in a lot of engagement with the external world for better practice and for developing business. They also see free and open communications internally as essential components in their operation investing resources into formal mechanisms for engaging in this. Taking on jobs which challenge is part of this openness to experimentation and learning which are essential for successful organisations. Although both organisations did not see structure as important for success - viewing the attitude of their people as more important-, they did see structure as something that could disable effective operation.

In conclusion, there is a danger in demonstration projects, which tend to present idealised and codified approaches to change through, for example, partnering or

supply chain management. Failure in projects, which simply follow these ideals, as a result of other problems may re-activate old practices. There is evidence presented here that what is required is a much deeper accommodation of the ideas behind change. Alternative or changed practices are aided by a systemic strength of purpose in an organisation where the new or different is not an option; it is essential to identity and practice. This requires strong people who are supported in strong organisations i.e. a learning organisation.

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