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HUMAN RESOURCE DEVELOPMENT IN CONSTRUCTION ORGANISATIONS: AN EXAMPLE OF A ‘CHAORDIC’ LEARNING ORGANIZATION?

ABSTRACT

Purpose/ Methodology/Approach

The concept of the Learning Organisation (LO) is associated with an advanced approach to Human Resource Development (HRD) characterised by an ethos of self-responsibility and self-development. The learning climate that this engenders is supported by temporary organisational structures responsive to environmental change. This paper presents case study research of the HRD strategy, policy and practice of a large UK-based construction contractor in relation to the concept of LO.

Findings

The analysis suggests that the organisational project-based structure and informal culture combine to form a ‘chaordic LO’. A ‘Chaordic enterprise’ comprises a complex organisation that operates in a non-linear dynamic environment. However, it appears that this approach has evolved unintentionally rather than as a result of targeted Strategic Human Resource Management (SHRM) policies, which in turn reflects a genuine commitment to advanced HRD.

Originality/value of paper

The findings render previous assertions that the industry fails to invest in its employees highly questionable. They suggest a need for further research to reveal how such approaches can be captured in replicate in the future.

KEYWORDS

Human Resource Development (HRD), Learning Organisation (LO), chaordic enterprise, construction industry

CLASSIFICATION

Case study

INTRODUCTION

Human Resource Development (HRD) is concerned with the provision of learning and development opportunities which support the achievement of business strategies and improvement of organisational, team and individual performance (Armstrong and Baron, 2002). Since Senge's (1990) and Pedler *et al*'s (1991) initial work, the concept of Learning Organisation (LO) has taken a central role in discussions which focus on the more advanced approaches to HRD (Mumford, 1995; Garavan, 1997; Stewart, 2001; Johnson, 2002; Phillips, 2003; Nyhan *et al*, 2004). Some see the LO as an 'ideal'-type HRD characterised by an ethos of self-responsibility and self-development, continuous development, inter-company learning and flexible structures that are responsive to environmental change (Coopey, 1996; Corbridge and Pilbeam, 1998; El-Sawad, 1998: 227; Phillips, 2003). An interesting recent contribution to the field is the thesis of a "chaordic enterprise" (van Eijnatten and Putnik, 2004). This is defined as

> *"a complex and dynamical organisation that operates in a complex, non-linear dynamic environment of which it is a central part..."* (ibid: 418)

This is suggested to provide a conceptual framework for understanding organisational patterns and human interactions in LOs.

The construction sector is considered to be one of the most dynamic and complex industrial environments (Druker *et al*, 1996; Wild, 2002; Loosemore *et al*, 2003). It is a project-based industry within which individual projects are usually custom-built to client specifications (Bresnen, 1990; Loosemore *et al*, 2003). Fluctuations in the economic markets are reflected in considerable variations in the number, size and type of projects undertaken by construction organisations over time. A key characteristic of the industry's output is that the finished product is largely non-transportable and must therefore be assembled at a point of use, usually outside (Bresnen, 1990; Fellows *et al*, 2002). This requires construction organisations to set up temporary organisational structures at dispersed geographical locations, frequently at a distance from central management.

The project team forms the focus of working life in construction, operating with a significant and necessary degree of independence. The changing requirements of construction work necessitate the formation of bespoke teams each time a new project is awarded. The impact of this is particularly apparent within the larger contractors, whose focus is on managing the construction process with a few directly employed managers and professional staff leading teams of outsourced trades contractors (Druker and White, 1995). Langford *et al* (1995), Druker and White (1995) and Loosemore *et al* (2003) note the relevance of Atkinson's (1981) 'flexible firm' model to the way construction workforce is organised. Construction organisations' project and operational senior managers easily fit into the core group and the use of the first peripheral group's numerical flexibility allows *"untroubled and speedy adjustment to changes and uncertainty in the construction services market"* (Langford *et al*, 1995). Most importantly however, the external sources of labour: subcontractors, agency temporaries and self-employed, are very common in construction (Langford *et al*, 1995; Debrah and

Ofori, 1997; Winch, 1998; Loosemore *et al*, 2003). Whilst the increasing use of external sources of labour has allowed the managing contractors to pass on risk and achieve greater flexibility, it has also made project co-ordination more complex, with a requirement for more highly skilled and experienced management (Druker and White, 1995; Fellows *et al*, 2002; Loosemore *et al*, 2003).

Despite these challenging characteristics of the industry employment practices, literature on HRD within large construction organisations is scarce and much of the evidence relies on data gathered over a decade ago (Langford *et al*, 1995; Hancock *et al*, 1996; Druker *et al*, 1996). This body of work, although somewhat dated, suggested that training development interventions for managerial and professional staff were not prioritised within construction organisations' planning and operations (ibid.). This view appears to prevail in more recent literature (Kululanga *et al*, 1999; Dainty *et al*, 2000; Ford *et al*, 2000; Strategic Forum for Construction, 2002), albeit without additional empirical verification. Raidén *et al* (2004) begun to address this shortfall by revisiting the central issues in construction HRD via reflective evaluation of current practice within large contracting organisations. They found, much in contrast to the earlier reports, that the companies demonstrated significant commitment toward strategic HRD with the benefits of staff retention and improved organisational performance. This paper builds on this work by subjecting the discussion to analysis against the frameworks surrounding the concept of the LO. In particular, the paper tests resent research evidence using Nyhan *et al*'s (2004) model of understanding the dimensions of organisational learning and van Eijnatten and Putnik's (2004) theory of the 'chaordic enterprise'.

THE LEARNING ORGANISATION

A Learning Organization (LO) is an organisation which facilitates the learning of all its members, thereby enabling it to continually transform itself in accordance with the prevailing operating context (Pedler *et al*, 1991). Within the LO, new and expansive patterns of thinking are nurtured, and people continually learn how to learn together (Senge, 1990). In recent years, the detail of the concept has expanded to cover a range of more specific areas, such as single- and double-loop learning; transformational and adaptive learning; the learning process; and systems thinking. These are explored in turn below.

Single-/ double-loop learning and adaptive/ transformational learning

Single- and double-loop learning refer to different hierarchical levels of learning within an organisation. In single-loop learning, errors are detected and corrected in a 'continuous improvement' process through incremental or adaptive learning (Stewart, 2001). Double-loop learning demonstrates a deeper level questioning and challenging of

the organisational success formulas (Altman and Illes, 1998). This represents transformational learning, which seeks to introduce radical change (Senge, 1990; Nevis *et al*, 1995). Much of the focus in research builds on the work of Senge (1990), who emphasised the advantages of double-loop learning over single-loop learning. However, some (for example Nevis *et al*, 1995; Nicolini and Meznar, 1995; Appelbaum and Goransson, 1997) argue that this takes an unnecessarily narrow view and suggest that an approach which combines both single- and double-loop learning perspectives provide a more balanced outlook towards HRD (Appelbaum and Goransson, 1997).

The learning process

Theories relating to the process of learning emphasise the continuous nature of learning. Kolb's (1984) learning cycle is perhaps the most established descriptive model of individual, team and organisational learning. This explores the cyclical pattern of four stages in learning: experience, reflection, conceptualising and finally action. Huber's (1991) construct of organisational learning constitutes of four sub-processes, which in turn include further sub-sub-processes (Table 1):

[take in Table I]

Nevis *et al* (1995) suggest a similar knowledge-based structure for organisational learning process. This consists of three stages: knowledge acquisition, knowledge sharing and knowledge utilisation. However, Nicolini and Meznar (1995) and Appelbaum and Goransson (1997) argue, that both models refer to the cognitive processes of learning that take place in organisations and thus constitute only one aspect of organisational learning. The other aspect is social construction of organisational learning (ibid.). This refers to the self-reflective process involved in transforming cognitive learning into abstract knowledge (Nicolini and Meznar, 1995). It also refers to the symbolic and political processes through which organisational leaders develop their identity (Appelbaum and Goransson, 1997).

Systems thinking

Systems thinking provides a methodology for understanding organisations as a whole by exploring their patterns and the nature of interrelationships (Appelbaum and Goransson, 1997). Senge's (1991, 1994) seminal works about systems thinking and its application to organisations introduced the idea as the basis for developing a LO. He identified five 'component technologies' that are crucial for LOs:

1. Personal Mastery – "*continually clarifying and deepening our personal vision, of focusing our energies, of developing patience, and of seeing reality objectively*" (Senge, 1990: 7)
2. Mental Models – "*deeply ingrained assumptions, generalizations, or even pictures or images that influence how we understand the world and how we take action*" (ibid: 8)
3. Building Shared Vision – "*the capacity to hold a shared picture of the future we seek to create*" (ibid: 9)
4. Team Learning – "*teams, not individuals, are the fundamental learning unit in modern organizations*" (ibid: 10)
5. Systems Thinking – focus on how the thing [an organisation or an aspect of an organisation] being studied interacts with the other constituents of the system of which it is a part.

These elements (single-/ double-loop and adaptive/ transformational learning, the learning process and systems thinking) have been used to construct frameworks of analysis for determining the extent to which organisations adopt/ implement LO in practice.

LO FRAMEWORKS OF ANALYSIS

This paper focuses on two recent developments in LOs: a model of understanding the dimensions of organisational learning (Nyhan *et al*, 2004) and the concept of the 'chaordic enterprise' (van Eijnatten and Putnik, 2004).

Model of understanding the dimensions of organisational learning

Nyhan *et al* (2004) suggests that an LO exhibits four characteristic features:

1. coherence between the formal organisational structure and informal culture; and organisational goals and individual employee needs
2. challenging work
3. support and provision of opportunities for learning
4. partnership between vocational education, formal training and informal HRD.

Their hypothesis suggests that the key to becoming a LO *"lies in the capacity to understand and see how the different and often seen as opposing dimensions of*

organisational life can be reconciled" (ibid: 75). These contrasting demands are represented along two continuums (Figure 1). The horizontal axis represents at one end the need to formalise and make transparent and on the other to manage the informal organisational culture. The vertical axis represents at one extreme the need for HRD strategies that support the organisational performance objectives and on the other encouragement of personal responsibility in meeting employee needs.

[take in Figure I]

The contrasting demands in this model pose constantly changing forms of conflict for organisations and so a linear "either-or" approach is rejected (Nyhan *et al*, 2004: 77). The diverse range of challenges faced by organisations in the modern business environment requires managers to respond to each situation on its individual merits. Structural procedures may work well to solve one type of conflict, whereas another situation may benefit from more informal cultural guidance. The rejection of the linear "either-or" approach also implies a need to pay attention to both the organisational development requirements and the individual employees' needs for training and advancement. Accordingly, more inclusive "both-and" approach is put forward as appropriate for a LO.

The concept of the 'Chaordic Enterprise'

The second recent development in the field of LOs is the 'Chaordic enterprise'. This originated from chaos and complexity theories, which accept the feature that "*people act upon a system of which they themselves are an inseparable part*" (van Eijnatten and Putnik, 2004: 423). 'Chaord' derives from cha-os and ord-er (Fitzgerald and van Eijnatten, 1998: 264). 'Chaordic' refers to "*anything simultaneously orderly and chaotic … existing in the phase between order and chaos*" (Chaordic Commons, 2004). The combination of 'chaordic' and systems thinking produced 'chaordic system': "*an entity in which nothing ever happens quite the same twice, but enough happens in a tidy enough way to preclude complete pandemonium*"; and further, the 'chaordic enterprise' (Fitzgerald and van Eijnatten, 1998: 264). A Chaordic enterprise can therefore be defined as:

> "…[an] *enterprise in which the two most fundamental properties of reality* [chaos and order] *are maintained in dynamical balance by virtue of an intentional process of management*" (ibid.).

Key features of a chaordic enterprise include discontinuous growth, organisational consciousness, connectivity, flexibility, continuous transformation and self-organisation (van Eijnatten, 2004; The Chaos Thinksite, 2004). van Eijnatten (2004) explains these as follows: The discontinuous growth refers to the cyclical nature of organisational development from birth to growth, stability, decline and instability through to growth

again. Development and learning are seen as discontinuous in this process. The organisational consciousness places importance on organisational mind (collective vision) as the driving force for change. Connectivity emphasises the nature of an organisation as a whole, and a part of a wider system. Flexibility in a chaordic enterprise signifies the fact that future is unpredictable. Consequently, organisational focus should be on preparing for change, not planning for change, and the how is to be made up as situations arise. Continuous transformation refers back to the cyclical nature of organisational development from birth to growth, stability, decline and instability through to growth again. According to this element of a chaordic enterprise, organisations should build mechanisms that enable them to initiate change very early on in decline in order to avoid steep falls. However, it is recognised that rebuilding organisations from states of deep instability often creates novel new forms. Finally, self-organisation refers to the need for a collective vision that is shared by all and thus directs all thought and action.

The chaordic theories are believed to emerge as the principal science of the next century in studying the complex, non-linear, adaptive systems, which modern organisations present (Chaordic Commons, 2004). Accordingly, the chaordic enterprise is suggested to provide an appropriate conceptual framework for using complexity to understand organisational patterns and human interactions in LOs.

LO AND THE CONSTRUCTION INDUSTRY

As suggested above, the construction sector is one of the most dynamic and complex industrial environments. Despite its attractive qualities, LO has received little attention within construction management research or at an applied level in company practices (Loosemore *et al*, 2003: 255). Indeed, Druker *et al* (1996) found construction organisations being far from learning organisations. The industry is known for its low take-up of the Investors in People (IiP) initiative (Strategic Forum for Construction, 2002: 31) and poor commitment to HRD (Dainty *et al*, 2000). Langford *et al* (1995: 136) note that the number of organisations undertaking management development within the industry is small, although those organisations that do undertake management development tend to place a lot of emphasis on it and support formal technical training courses with coaching. Kululanga *et al* (1999) and Ford *et al* (2000) suggest one possible reason for the low commitment to LO being the predominance of an engineering culture that focuses on technology instead of people. Loosemore *et al* (2003: 257-258) suggest further that the low uptake stems from the assumption that training delivery is expensive, a ‘learn-on-the-job’ culture, clashes with production objectives and legislative training requirements dressing additional activities as unnecessary luxuries. They also note staff turnover concerns in relation to the belief that developing employees will make them more attractive to other companies and the influence of a macho environment, within which traditional classroom education is often seen as a non-productive, feminine activity.

Jashapara's (2003) work on the impact of learning to organisational performance within construction organisations suggested that the dynamics of competitive forces evident within the industry imply a need for companies to focus their learning activities on efficiency and proficiency to achieve competitive advantage. However, a short-term focus of organisational learning on efficiency and proficiency undermines the long-term individual career development and organisational succession planning benefits that potentially flow from strategic HRD policy, which takes into account the needs of the organisation *and* the people it employs (Dainty *et al*, 2000). Dainty *et al* (2000) recognised the missed opportunities of strategic HRD and suggested a fundamental realignment of the HRD function with the employee needs so that maximum benefits of competitive advantage could be achieved.

METHODOLOGY

Empirical data for the examination of the 'chaordic' LO were drawn from recent doctoral research that investigated a large UK-based construction contractor's Strategic Human Resource Management (SHRM) practices (Raidén, 2004). This study included multiple sets of qualitative data collected via exploratory and semi-structured interviews with divisional directors (n=4), human resource personnel (n=4), operational senior managers (n=7) and professional employees at all levels (n=35). These data were used to examine the company approach to employee resourcing and HRD. In addition, the interview material was used to extract a list of factors important to be taken into account in the SHRM decision-making and to identify the compatibility and conflicts between the organisational priorities, project requirements and employee needs and preferences. This allowed for the research to take a tri-dimensional view on the study of HRD: firstly, the organisational strategy, policy and practices could be described effectively; secondly, the methodology made it possible to elicit the importance of HRD as a variable in the wider SHRM decision-making; and finally, it provided a comprehensive framework for including the employee as well as managerial views on the process. The qualitative interview data were supported by a structured questionnaire. A researcher-administered analytic hierarchy method survey (Saaty, 1980) asked employees to rank the importance of nine factors that potentially influence their deployment needs and preferences against each other. The multiple sets of data were analysed using NVivo, a qualitative data analysis software (Bazeley and Richards, 2000), summary statement matrices (Miles and Huberman, 1994), thematic analysis (Boyatzis, 1998), and SPSS and MS Excel, packages for the analysis of quantitative data. NVivo in particular helped to collate the data sets together, which facilitated the use of the varied material to cross-reference the conclusions drawn (Bazeley and Richards, 2000; Scholz and Tietje, 2002).

RESULTS AND DISCUSSION

The extant literature suggests that construction organisations show poor commitment to HRD due to the belief that it is a costly function, which potentially makes the company employees more attractive to competitors. In addition, it is reasonable to assume that the industry's macho culture and short-term focus on operational issues may prevent many managers from seeing the long-term benefits of organisational succession planning and individual career development. In light of this it was somewhat surprising that the research revealed that a leading employer within the industry adopted what amounted to a highly sophisticated approach to training and development. They were found to actively encourage continuous development and facilitated self-responsibility and inter-organisational learning through temporary organisational structures. These findings are explored in detail below in relation to the main elements of an LO, the understanding the dimensions of organisational learning model and in relation to the concept of the chaordic enterprise.

The organisational HRD strategy, policy and practices

Vision and strategy

The organisational "People Statement", the organisational vision document from which HRD strategy was derived, suggests a significant degree of senior management commitment to good people management practice and continuous HRD:

> *"We undertake to provide each employee with relevant and structured training to provide motivation, job satisfaction and to maximise their contribution to the business… It is our aim to have sufficient people with the mix of competencies needed to meet the current and future needs of our business plan. […The company has in place a] competency-based annual appraisal system, which includes a personal development plan, for all employees across the group.*
>
> *[…] In 2001 we achieved group-wide accreditation under the Investors in People standard, which underpins our corporate training and development strategy. …We are currently reviewing our long term training strategy to achieve 'fully qualified' workforce through linking existing and new training programmes to NVQs and to ensure that we continue to provide 'lifelong' learning opportunities for all employees.*

This clearly recognises employee contribution to the organisational success and highlights the company commitment to training and development (HRD) and the IiP standard.

The delivery of this vision forms one of the key elements of the human resource plan (strategy), which is formulated annually as part of the overall business plan. The plan is distributed to the divisional directors and senior managers who have responsibility for its implementation. The company's strategic choice in terms of operational HRD was to devolve many of the responsibilities to line management. Nevertheless, the company had a main board level HR director, who oversaw HRD implementation at national level and held the responsibility for all training budgets. Thus, he worked as a strategic link between the regional profit centres.

Appraisal

The company annual appraisal process formed the formal means of discussing, identifying and recording employee training needs. The appraisal interview provided an opportunity for discussing potential progression solutions and aided assessing individuals' current job performance, developing personal development plans (PDPs) and recording employees' aspirations and preferences. The system included both objective and subjective elements. The measurable (objective) aspect focused on evaluating performance and progression solutions and identifying related training and development needs. The subjective element sought to extract employee thoughts and satisfaction in relation to the interpersonal relationships within the team, department / wider organisation and the HR/ operational processes. Full records were signed by all parties involved and progress followed up in six-monthly reviews and/ or in the following year's annual appraisal as appropriate. Summaries of the individual training and development needs were collated within a bespoke database and distributed for divisional senior management approval. These were then brought together with the overall business plan to form the basis for wider organisational development plans, which the HR director used to assess and distribute budgets as necessary.

HRD activities

The formal training interventions supported by the organisation included training toward professional qualifications, such as the Chartered Institute of Building (CIOB) and Royal Institute of Chartered Surveyors (RICS), continuous professional development (CPD) and day release part-time degree study at local Universities.

More informal development mechanisms included mentoring and coaching, job shadowing, induction programmes, developing potential courses, encouragement of innovation and sharing of good practice. The mentoring and coaching schemes were used to provide a point of contact for both newcomers and managers rising through the organisation, from whom they can obtain informal careers advice, encouragement and support. This approach was also used to help instil the company values on all managers within the organisation. Job shadowing and induction programmes were introduced to

support new recruits and recently promoted staff. This helped to familiarise new recruits with the company policy and practices. New senior managers were given the opportunity to job shadow an existing senior member of staff in order to facilitate their integration within the firm. The company had also sought to develop future potential in collaboration with a leading management college. Clusters of managers and other personnel identified for succession planning were invited to attend appropriate training courses. Bringing together clusters of people from different areas of the business on this programme encouraged new practices and innovative approaches to be developed and their effective application throughout the organisation. Regular weekly meetings between senior managers and directors were used to encourage innovation and further sharing of good practice. New ideas and practices emerging from individual employees and project teams were evaluated and discussed in order to help to transfer good practice throughout the organisation.

Analysis of the main elements of a learning organisation

Single-/ double-loop learning and adaptive/ transformational learning

As alluded to above, the case study organisation promoted training and strongly encouraged continuous development. Both managers and employees felt that the training toward professional qualifications and CPD were high priorities within the organisation. This indicated commitment to single-loop learning. Short-term training interventions were used in response to performance issues and/or legislative changes and other environmental influences. These formal training interventions were supported by a range of more informal development mechanisms, such as the mentoring and coaching, job shadowing and induction, encouraging innovation and sharing of good practice schemes. The informal activities, together with the CPD, emphasised the role of longer-term continuous development via double-loop transformational learning. This suggests that the case study organisations' commitment to training and development in terms of the single-/ double-loop learning and adaptive/ transformational learning follows the principles of an effective LO. The company provides for and encourages structured training courses. In terms of staff development, their long-term strategy is to achieve fully qualified workforce. In addition, high importance is placed on CPD. This mix involves short- and long-term solutions to continuous development of both the organisation and individual employees. The mentoring and coaching schemes help to ensure that the employee needs and preferences are integrated in the planning and delivery of HRD activities.

The learning process

The organisation was found to successfully acquire new knowledge through multiple methods. Training courses provided basic information and up-dates on issues such as legislative change and thus helped to adapt operational processes to environmental change. Knowledge sharing was facilitated through more informal mechanisms, such as mentoring and coaching. However, knowledge utilisation (the third and fourth aspects of Nevis *et al*'s (1995) and Huber's (1991) models) represented a weakness for the case study organisation. Many respondents discussed this to result from the dispersed and temporary organisational structures that the project-based environment dictates. Knowledge transfer was found to be difficult in forms other than individual employee knowledge carried forward from one project to another. The company had team meetings and project-end evaluations in an attempt to facilitate inter-project learning, however, limited use of information technology in recording the outcomes hindered wider transfer of the knowledge gained from these events.

The other element of the learning process, social construction that refers to the self-reflective process involved in transforming cognitive learning into abstract knowledge and the symbolic and political processes involved in learning, was found relatively effective at the level of the individual. The transformation of cognitive learning, which results from the knowledge acquisition-sharing-utilisation process above, into abstract knowledge was evident in the continuously increasing level of skill and competency staff hold. However, this failed to achieve the desired level of learning, mainly because of the difficulties in knowledge utilisation. Nevertheless, the symbolic and political processes related to social construction of learning strongly highlighted training and development as being key to organisational success and individual advancement.

Systems thinking

The quantitative analytical measures taken in order to elicit the importance of HRD in the SHRM decision-making from the interview and questionnaire data revealed several factors that match Senge's five 'component technologies' [1-5]:

[1] Firstly, factors relating to organisational and HR planning emphasised the importance of long-term planning together with organisational flexibility and management of change. This mirrors Senge's LO component technology 1: personal mastery. Flexibility was used to allow for continual clarification of the organisational focus and change management initiatives supported effective and timely implementation of the vision and mission.

[2] The second component, mental models, was reflected in the organisational culture which was founded on trust, openness, partnering, empowerment (employee involvement) and individualistic management style. The company's choice in terms of operational and human resource management overall was to devolve many of the responsibilities to line management. It was the

responsibility of divisional directors and senior managers to ensure that the operations run smoothly and the personnel involved in projects were looked after appropriately. Project-based personnel also had the remit and accountability for their particular elements of the work. Employee preferences were incorporated into project deployment decision-making through the close relationships departmental managers had with their staff. In addition, employees were closely involved in their personal development and career planning.

[3] Thirdly, the HRD and careers themes drew attention to organisational development and continuous improvement. Transparent progression opportunities and succession planning activities focused staff retention and achievement of organisational goals in the long-term. Career development, fast track progression and taking on trainees balanced this with extensive employee opportunities. These reflected the organisational commitment to building shared vision, Senge's component technology 3.

[4] In terms of the importance of a team as the central unit in development (component 4) the respondents highlighted the significance of good team spirit and relationships. The same key themes were found to be significant within the employee interviews and the analytic hierarchy method questionnaire results also supported this. Good team relationships together with personal and professional development and gaining broad and/ or specialist experience were ranked as the most important factors to be taken into account in SHRM decision-making.

[5] Finally, the analysis on systems thinking (Senge's component 5) demonstrated very high managerial commitment to HRD. The developmental philosophy was strongly rooted in the organisational culture and ethos, and learning activities were embedded in the daily operations. HRD was led by a strategy that provides clear direction and motivation to encouraging training and development at all levels and stages of projects and individual jobs. Line managers and HR personnel supported this view through their transparent commitment to promoting HRD. This achieved high levels of staff satisfaction.

Although many aspects of the company practices clearly reflect LO, it is important to note that neither the interviewees nor the questionnaire respondents recognised this as an appropriate "label" for their intended approach. The respondents' apparent unawareness of the terminology has a significant implication in delivering the espoused goals of the LO within the construction sector. The literature indicates that many company programmes that develop LOs fail to deliver the desired results because the initiative is viewed as a destination, rather than an on-going, continuous process. Since the case study organisation clearly embraced the values and principles of the concept, without recognition of appropriate terminology, this shows their "true" commitment to advanced HRD; and further, to becoming an LO. Despite an organisation achieving the "status" of a LO, they continually encourage further development and improvement.

Understanding the dimensions of organisational learning

In relation to the four central aspects of Nyhan *et al*'s model of understanding the dimensions of organisational learning [1-4], evidence of advanced HRD practice within the case study organisation supported the above contention of a LO:

[1] There was clearly a balance between formal structure and informal culture, as revealed by the third element of analysis which evaluated the compatibility and conflicts between the organisational priorities, project requirement and employee needs and preferences within the case study organisations' SHRM strategy, policy and practice. The organisational structure was strictly hierarchical with the HRD strategy providing a clear direction for encouraging developmental activities at all levels. However, at the same time, the organisational culture was informal; described as *"friendly, open and family orientated"* with many of the SHRM responsibilities devolved to line management. Furthermore, the achievement of organisational goals is monitored and assessed via the company performance appraisal system, which also included elements focused on meeting employee needs.

[2] By the very nature of construction work (individual projects custom-built to client needs), work within the industry was seen as being varied and challenging. Employees also enjoyed the transparent progression opportunities.

[3] These provide key opportunities for learning, which are supported by managers at all levels through the formal and informal HRD mechanisms.

[4] Finally, the company's collaboration with a leading management college together with their integrated approach to provision of NVQs, professional qualifications and informal HRD demonstrated the partnership approach taken to incorporate all aspects of training and development particularly well.

The result of this type of staff development policy and practice has been that staff felt supported, empowered and were able to take advantage of the full range of opportunities available within the organisations. The succession planning benefits that this provides has meant that the organisation's key personnel were long serving members of staff who have reached their positions through the promotion and development processes. The open approach also benefitted the organisation in that newcomers were encouraged to bring in their fresh ideas. Together, these management development activities ensured a culture of mutuality within a spirit of continuous improvement that is paying dividends in terms of the organisation's performance. This suggests that the case study organisation attempted to understand and reconcile the opposing dimensions of organisational life along the two continuums in Nyhan *et al*'s model and have achieved an inclusive "both-and" approach. Conflict is evident but this is accepted and managed constructively in order to further continuous improvement.

Chaordic learning organisation

Considering the second proposed framework for analysis on LO - the chaordic enterprise, it becomes evident that the case study organisations conform to this model. Both, the characteristics of the environmental context within which the organisations operate and the company values and practice, reflect the key features of a chaordic enterprise. As outlined previously, the central characteristics of a chaordic enterprise are discontinuous growth, organisational consciousness, connectivity, flexibility, continuous transformation and self-organisation. These are explored in relation to the case study organisation below.

Discontinuous growth

The cycle of discontinuous growth is well documented in the construction environment (Loosemore *et al*, 2003). Upward fluctuations in the economic markets are reflected in the sector in sharp increases in organisations' workloads. At times of downturn there is commonly a radical reduction in construction activity. Infrastructure and property development are often the first areas of economy to feel the impact of recession and in boom these are usually the last sectors to regain investment. The case study organisation had experienced this, the most recent example being in securing large public-private-partnership (PPP) contracts while their communications business (building mobile communications support stations) had also expanded at an unexpected rate. Short-term (reactive) and long-term (strategic) training and learning activities accommodated staff deployment to these areas. Thus, the organisation was able to take up the new opportunities available and sustain profitable existence.

Organisational consciousness

The organisational consciousness, which places importance on creating a collective vision as the driving force for change, is another characteristic featured strongly within the case study company. As discussed above there was a general conformity to informal, friendly, family oriented organisational culture. This was supported by strategy and policy, which provided clear direction for employee efforts. The combination resulted in culture of mutuality within a spirit of continuous improvement throughout the organisation. This has learning and development at the heart of the operations at all levels.

Connectivity

The third characteristic of a chaordic enterprise, connectivity, emphasises the nature of an organisation as a whole, and a part of a wider system. This is one area where the case study organisation lacks unity. The organisational structure divided the firm into regional units, which formed independent profit centres. These are seen to form a whole only at management ranks at higher levels and within senior professionals who may be allocated work in different parts of the company. Contractors are generally agreed to form parts of extensive and complex supply-chains, which include on the one hand the client and their advisory and investor connections and on the other hand suppliers of materials and labour (Wild, 2002). In addition, there are direct connections with various other stakeholders, such as the government and professional bodies who influence contractors' operations. Indeed, construction projects are said to form extended virtual organisations or teams (Charoenngam *et al*, 2004), which in turn again form a whole and a part.

Flexibility

Flexibility is as central to the construction industry/organisation as it is to the chaordic enterprise. As was discussed above, construction is a project-based industry within which individual projects are custom-built to client specifications. In addition, since the industry's output is largely non-transportable construction organisations are required to set up temporary organisational structures at dispersed geographical locations. A large proportion of the work is carried out outdoors and so weather conditions may place restrictions on progress. Consequently, construction organisations rarely plan for change but react to it as situations arise. Continuous learning, as well as continuous transformation, is inherent in this environment. Learning is clearly both adaptive, in coping with the current conditions, and transformational, in devising new ways of working and organisational structures that accord with changing business needs.

Continuous transformation

The case study organisation's recent success in PPP and communications businesses reflects their ability to exploit the opportunities of continuous transformation. These developments followed from the slow down of civil engineering works. In line with the principles of this element of the chaordic enterprise, the organisation was able to initiate change very early on in decline and avoid steep fall in their overall workload. This required extensive training and development to refocus the company's market holding. Rebuilding the organisation from instability created a surprising competitive advantage as it generated unique management development opportunities and also extended the flow of knowledge from outside the organisation in recruiting significant numbers of new personnel to match the demand.

Self-organisation

Finally, the organisation mind, a culture of mutuality within a spirit of continuous improvement, was shared by all employees and thus directed thoughts and actions within the company. This benefitted the organisation by giving it a clear agenda for self-organisation and self-development, although the "traditional" culture of the industry hindered some significant developments in improving working methods or implementation of new initiatives/ policy industry-wide. In fact, the strong organisational mindset found within the case study organisation in some respects undermined its espoused aim to improve and embrace change, and the operational practice to deliver according to well-established traditional ways. Thus, the learning opportunities from new staff and innovative ideas did not always take-off as hoped and frustrations arose as a result. Improvements tended, therefore, to be incremental in nature.

CONCLUSIONS

Learning organisation (LO) represents an advanced approach to HRD, incorporating self-responsibility and continuous improvement. An analysis of a construction organisation's approach to HRD in relation to the elements of LO, Nyhan *et al*'s model of understanding the dimensions of organisational learning and the theory of the 'chaordic' enterprise, suggests that there are several areas of LO that can be embraced, even within a traditional industry such as construction. Most significantly in this paper this is true in understanding the different dimensions to organisational learning, discontinuous growth, organisational consciousness, flexibility and continuous transformation. This supports Raidén *et al*'s (2004) contention that construction organisations have advanced in their adoption of sophisticated HRD practices from the situation described as common in the mid-1990s: low take-up of the IiP initiative and poor commitment to HRD. Furthermore, it implies that Jashapara's (2003) findings may have only partial applicability to the industry. It is true that the case study organisation delivered training, and therefore also direct learning activities, to improve its efficiency and proficiency. However, their HRD strategy took a much longer-term view on development and the informal practices in particular incorporate individual employee needs into the decision-making process.

Although potentially significant, it is recognised that this study is limited in that it relates to a single case study organisation. Although this organisation may be considered reflective of the small number of large contractors operating in the UK, a much wider study is required to validate the discussion as applicable to the industry beyond the case study organisation and to explore whether such approaches can be

captured in replicate in the future. Nevertheless, the findings provide an encouraging alternative to support organisations in the industry that attempt to move the traditional, macho culture and practices forward. Indeed, taken at case value they render previous assertions that the industry fails to invest in its employees as highly questionable.

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Table 1: Organisational learning as construct of sub-processes (developed from Huber, 1991)

Sub-process	*Sub-sub-processes*	
1. knowledge acquisition	1.1. drawing on knowledge available at organisation's birth	
	1.2. learning from experience (Kolb's learning cycle)	1.2.1. experience
		1.2.2. reflection
		1.2.3. conceptualising
		1.2.4. action
	1.3. learning by observing others	
	1.4. drawing on external sources	
	1.5. collecting and using information about organisational performance	
2. information distribution		
3. information interpretation	3.1. framing	
	3.2. cognitive maps	
4. organisational memory	4.1. organisational culture	

Figure 1: Understanding the dimensions of organisational learning (adapted from Nyhan *et al*, 2004: 76)