

THE SIGNIFICANCE OF HUMAN RESOURCE ISSUES IN KNOWLEDGE MANAGEMENT WITHIN THE CONSTRUCTION INDUSTRY – PEOPLE, PROBLEMS AND POSSIBILITIES.

Anthony Olomolaiye¹ and Charles Egbu²

School of the Built and Natural Environment, Glasgow Caledonian University, Glasgow, G4 0BA, UK.

In recent times, construction organisations have been turning to the practise of knowledge management (KM), for sharing experiences and expertise, as the currency for organisational sustenance and competitive advantage. The human resource (HR) view is now increasingly gaining more attention in recent years in the KM 'territory', especially in project-based industries, such as construction. This is due to the recognition that employees within the organisation are the main source of experience and expertise. Therefore, organisations need to develop a greater appreciation for their intangible human assets, captive in the minds and experiences of their employees. This paper, based on an on-going doctoral programme, examines the 3 Ps - people, problems and possibilities - that have to be considered in successfully utilising human resource (HR) issues for implementing KM and the benefits that are expected to accrue to the organisation. The construction industry is a mixture of both core and periphery employees which pose a difficult challenge to managing knowledge within the organisation. Problems, such as knowledge ownership, structural and cultural blockages, which might impede the successful take-off of KM when a greater people-centric perspective of managing knowledge is adopted, are identified and likely solutions proffered. This paper concludes with the importance of HR issues as reflected in the way HRM policies and practices ensure that only the best people are selected. Employees need to be given high quality and appropriate training and development. They also need to be suitably rewarded to reflect their contribution to knowledge sharing and creation, and their commitment to the organisation is achieved. The issue of trust and empowerment are particularly significant to knowledge sharing and creation.

Keywords: human resource management, knowledge management.

INTRODUCTION

Knowledge Management (KM) is considered by some as the latest management panacea for organisational effectiveness, sustenance and source of competitive advantage (Hlupic *et al.*, 2002, Osterloh *et al.*, 2002, Wiig, 1997). Companies have come to the realisation that inside their organisations lay untapped pools of knowledge, know-how and best practices, which they had thus failed to employ or even recognise (Ahmed *et al.*, 2002). A careful and thorough consideration of organisational theory reveals the ease of availability and accessibility to external resources which is almost the same for every organisation. Therefore, it is arguable that it is the internal resources which are difficult to imitate, non-substitutable, durable

¹ a.olomolaiye@gcal.ac.uk

² c.egbu@gcal.ac.uk

and non-transparent that can make the greatest difference for any organisation in achieving a competitive advantage over other organisations. Organisations that control these hard-to-imitate resources earn rents and gain a sustained competitive advantage that other firms find too costly to imitate (Osterloh et al., 2002). Most scholars agree that the knowledge that resides in the organisation, especially the tacit knowledge that resides in the employees is the most important source of these hard-to-imitate resources which gives competitive advantages.

The KM 'territory', appears to be dominated by two main viewpoints – The proponents of information and communication technology (ICT) and the human resource (HR) views. The latter is now increasingly gaining more attention in recent years, especially in project-based industries, such as construction. Lately, there have been appeals by both practitioners and academicians for the need to concentrate on the human and organisational issues in managing knowledge rather than on technology (Edwards, 2001). But while a large number of organisation have started to manage knowledge, many of them are not quite aware of the problems, opportunities or strategies required to do so.

RESEARCH AIMS AND OBJECTIVE

This paper draws from an on-going PhD doctoral study entitled 'Capitalising on the Human Resource Aspects of Knowledge Management for Performance Improvements in Construction Organisations'. The aims and objectives of this study are:

- To explore and document the challenges associated with effectively managing HR for KM improvements in construction organisations.
- To explore the extent to which organisational strategy, structure and culture affect the successful exploitation of HR issues for improved KM initiatives in construction industry.
- To identify and document the level of education and training needs/requirements of managers and staff, which is necessary for improved understanding of HRM contribution to KM initiatives; with the purpose of developing an appropriate training programme to be used for continuing professional development (CPD).
- To develop and test a conceptual framework (and a prototype) "Productivity Measurement Criteria Applicator (PMCA)" which would attempt to measure the relative impact of human resource issues on knowledge management performance in organisations and how they contribute to organisational process improvement.

Most of what is put forward in this paper is through a methodical review of extant literature and discussions with academic/practitioner experts in the field of KM and HRM, as this study is still in its early stage. Some of the problems and opportunities that have to be considered in successfully utilising human resource (HR) issues for implementing KM and the benefits that is expected to accrue to the organisation are examined.

RESEARCH METHODOLOGY

In achieving the aims and the objectives of this research, a robust methodology is being employed. A thorough review of extant literature is on-going in the areas of knowledge management, human resource management, organisational learning, process improvement practices and performance management initiatives. Good

sources have been identified in Journals, books, internet databases, periodicals and conference proceedings.

A preliminary field studies has been embarked upon. This has taken the form of semi-structure interviews within the three categories of hierarchical structure identified in the literature – the strategic, tactical and operational levels. Amongst these, the people that perform job roles and responsibilities of Managing Director, Directors of Construction, HRM Managers, Contract Managers, Project managers, Construction Managers and Senior Site Managers are to be interviewed. Content analysis will then be used to analyse the data gathered from this field work.

Both qualitative and quantitative research methods would be applied during the main field study which would be the next stage of this research. Semi-structured interviews, postal questionnaires and case studies would also be used. The use of questionnaires and interviews will be as investigative mechanisms to identify the key human resource factors that inhibit and promote knowledge management. Appropriate software packages including Statistical Package for Social Sciences (SPSS) will primarily be used to analyse the quantitative data collected, while Non-numerical Unstructured Data Indexing Searching and Theorizing (NUD*IST) would be employed for the analysis of qualitative data. Using the information deduced from the data collection phase, a framework will be developed to assess the relative impact of human resource issues on knowledge management performance in organisations and how they contribute to organisational process improvement. The validation of the framework will form the basis of the conclusion and recommendations of this study.

PEOPLE, KNOWLEDGE AND CONSTRUCTION INDUSTRY

The fundamental shift to an entirely new form of economy – the knowledge-based economy (Wiig, 2000; Storey and Quintas, 2001) is bound to change the landscape of HRM, most especially in the construction industry. Knowledge, it would seem, has come to assume the prime role among the various factors of production (such as land, labour and capital). Its significance and importance is seen to eclipse these other factors of production.

The construction industry is a project-based industry. It is perceived to be very traditional and somewhat reluctant to accept changes in business improvements. It delivers large, expensive, custom-built facilities at the end of a construction process (Carrillo *et al.*, 2004). It is a strong, knowledge-based industry that relies greatly on the knowledge contribution of diverse participants in a project team. The industry is also perceived to have a relatively high level of adversarial business relationships amongst key players in the construction demand and supply chains. The industry is seen as a labour intensive and much of the variable cost is tied up in human resources (Loosemore *et al.*, 2003).

This has led to labour been viewed as a cost to be minimised with no broader balance sheet value (Tyman and Stumpf, 2003; Raich, 2002). Considerable pressure and demand mount on construction organisations on how to make changes to reduce this cost while still enhancing efficiency and effectiveness (Henry, 1995). Besides, the construction industry is seen as a mixture of both core and periphery employees which pose a difficult challenge to managing knowledge within the organisation.

This makes construction industry one of the most challenging environments in which to manage people effectively in order to ensure that they contribute to organisational success (Loosemore *et al.*, 2003). There are also real and perceived low levels of trust amongst the clients and other members of the construction team. This heightens the level of conflicts in projects and business arrangements, ultimately impacting upon the

exchange of knowledge and sharing of competencies to impinge on business goals. Such features present an antithetical picture to the critical success factors portrayed in current knowledge management literature – effective management of trust, conflict and innovation.

With the attendant result being the debate in the construction industry of questioning whether the industry's lamentable performance with regards to managing and respecting those that work within the sector could explain why the industry has so far failed to improve its performance significantly (Dainty et al, 2002). In response to the need for improved *Respect for People*, the government set up a working group. The report (RfP, 2000) released by the working group set out practical ways for the industry to improve performance on its management of people.

The issue of paying more attention to people that work within an organisation is not only limited to the construction industry alone. There has been the need in other sectors also to change the view about labour. The management of employee is now the key element in the co-ordination and general management of work organisations. The competitive pressures, both in local and international markets, are also helping in shifting the desired outcomes in the management of employment relationship away from compliance in employee behaviour towards a more positive commitment (Druker et al., 1996). This new development has put human resource management (HRM) at the forefront of management changes necessary for business requirements.

THE PEOPLE

It is impossible to talk about knowledge, both individually and collectively, without addressing the way people work together, learn together, and grow (Allee, 1997). Some, while ignoring the human-side of KM, have been focusing on the technological side. This is because the use of computers has over the last two decades led to the dominance of a database-centred view of organisational information resources and processes (Quintas *et al*, 1997). It is this school of thought that has become the focal point of many conceptualisations of KM. According to Scarbrough *et al* (1999), KM is viewed as a product of this school of thought.

Traditionally, the focus of the information and communication technology (ICT) industry has always been on the management of information. The reason for the domination of the KM 'territory' by the ICT industry is because of its facilitation of one-to-one, one-to-many, many-to-one and many-to-many communication distributed across time and space (Thuraisingham *et al*, 2002; Swan *et al*, 1999). Many proponents of this school of thought propagate the development and implementation of KM databases, tools and techniques for the creation of "knowledge bases", "knowledge webs" and knowledge exchanges". Swan et al (1999) illustrate three fundamental problems with IT-driven approach to KM as:

- Firstly, they assume that all, or most, relevant knowledge in an organisation can be made explicit and codified.
- Secondly, they are founded on the partial view of KM, focusing more on processes of exploitation rather than on processes of exploration.
- Thirdly, they are supply driven and assume that the extensive availability of information will automatically be applied and used to develop innovative solutions.

The fact that knowledge is encoded in some way in a database or system does not guarantee its usage; it may make its usage less likely as the system becomes increasingly more complex and integrated (Wensley, 2001). These limitations of the

techno-centric approach to KM are rooted in its neglect of the critical social construct nature of knowledge (Ruddy, 2000; Nonaka and Takeuchi, 1995). Knowledge is more organic than mechanical (Allee, 1997). Therefore, substituting database structures for the people who actually creates organisational knowledge will ultimately remove the intrinsic meaning of knowledge (Miller, 1999), and make it easy for competitors to copy such knowledge and eliminate the competitive advantages enjoyed by the organisation.

Wiig (2000) recommends the adoption of a greater people-centric perspective of knowledge as one key lesson to be learned in managing knowledge. Alluding to the importance of the human side of knowledge management he went further by saying, *“in most organisations people and their behaviour contribute much more to the enterprise success than do the assets that conventionally are targets of management focus.”*

This line of argument is echoing the views of Davenport (1997) about the future of knowledge management:

“since knowledge is information that is highly valued by people and has at some point resided in someone’s brain, people are the most important resource in effective knowledge management.”

The extent to which organisations will be willing to co-operate in this process is likely to depend, to a great extent, on the nature of human resource management (HRM) policies and practices.

The main issue surrounding HRM is about releasing human potential through effective managerial leadership and good communication. Human resource management in the context of managerial process refers to the practices and policies needed to carry out the people or ‘human’ aspects of managerial job. Organisations that succeed include the human resource function as a central focus in formulating competitive strategic business plan.

However, not only has insufficient attention been given to the role of human resources in knowledge management (Scarborough *et al.*, 1999) but the implications of KM for human resource (HR) have not been fully appreciated and investigated. Research in this area has the potential to contribute to an improved understanding of how to manage those who create knowledge in organisations so as to improve the performance of knowledge management. Implementing the people-centric view of KM is bound to encounter some serious problems and if these problems are not carefully handled, it can derail any KM initiative in the organisation.

THE PROBLEMS

The major obstacles to successful KM are internal barriers which prevent some organisations from successfully implementing their KM initiatives. Some of these obstacles are:

Knowledge Ownership

Employees do not like asking for help because the educational system and social indoctrination they grew up with frowned upon teamwork and collaboration, emphasising instead the need to be competitive, independent and self-reliant (Ahmed *et al.*, 2002). This idea of individual efforts and knowledge hoarding is perpetuated in construction industry. To seek knowledge from others is seen as compromising oneself and an admission of ignorance. This attitude gives employees a sense of security and political influence within the organisation. Many organisations have witnessed their employees surreptitiously refusing to align with some KM initiatives

with statements like, “This is your system, not mine”, “Not invented here”, “That might work for them, but it will never work here”.

If KM is to succeed in such organisation, HR practices and policies should be designed to facilitate a mechanism that brings people together, either formally or informally, which should lead to slogan such as, “Re-use ideas shamelessly”. HRM should also develop conditions that motivate knowledge contribution and sharing.

Structural Blockages

There will always be hierarchy and some form of command and control in any organisation. The degree to which the organisation facilitates knowledge activities will always depend on the organisational structure and, most especially, senior management involvement. Any organisational structure that encourages rigid departmental separation, functional separation and formal reporting hinders KM. A situation whereby much information flows upwards and directives flow downwards can constitute a structural blockage to successful KM initiative. Implementation of autonomy and flexibility within the organisation promotes knowledge activities (Ahmed *et al*, 2002). This reflects, in decision-making responsibility at lower levels, decentralised procedures and minimum bureaucracy.

Cultural Blockages

According to Schein (1985) culture is a pattern of basic assumptions – invented, discovered, or developed by a given group as it learns to cope with its problems of external adaptation and internal integration. These assumptions must have worked well enough to be considered valid and therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.

Some organisations have been able to develop a corporate culture that encourages KM (Ahmed *et al*, 2002) such as freedom to experiment, expectation that knowledge is part of employees’ job, and freedom to try things and fail. Others such as acceptance of mistakes, allowing discussion of dumb ideas, no punishment for mistakes and willingness to share credit also promote knowledge culture.

THE POSSIBILITIES

Many traditionally designed activities of HRM might need to be re-designed towards making KM effective. These activities could lead to giving HRM the required significance in organisations. Some of these activities are:

Recruitment, Selection, Retention & Succession Planning

A major significance for HRM in the knowledge-economy is in the area of staffing the organisation with competent and knowledgeable workers who are committed to the goals of the organisation. Construction organisations can depend on HRM to close the gap in critical skills needed to compete in the marketplace. This would seem to involve looking at recruitment, retention and succession planning, from a KM perspective, with the idea of not just ‘filling jobs’ but filling critical knowledge gaps – either current or anticipated (Harman and Brelade, 2000). For effectiveness in this area, HRM might need to:

1. Align the values projected by the organisation to potential recruits and the values of those recruits
2. Develop a selection procedure that are acceptable to potential recruits
3. Ensure cultural fit for the new employees
4. Recognise the importance of psychological contract

5. Re-designing HR policies and practices to allow individuals to meet personal aspirations and to make 'lifestyle' choices.

Training & Development

This is an area of HRM that deals with what people know and how they use what they know, an issue of great importance in KM. The aim of training and development is to change behaviour at the workplace in order to stimulate efficiency and higher performance standards (Cowling and Mailer, 1990). Training ensures the systematic development of the attitude, knowledge and skill behaviour pattern required by an employee in order to perform a given task adequately. Training programmes yield many direct benefits such as enhanced problem-solving skills, a more competent and efficient workforce, fewer recruiting problems in obtaining qualified employees and fewer problems with employee relations. Training programmes also communicate to employees that the organisation is concerned about their wellbeing (Wells and Spinks, 1996). The training needs of employees are determined based on the gap between actual and required performance. The key tasks that HRM might have to perform in KM environment are (Yahya and Goh, 2002; Harman and Brelade, 2000):

1. Equipping staff with the skills to manage their own learning and development
2. Build awareness of KM into training by focusing on achieving quality, creativity, leadership and problem solving
3. Building teamworking skills and co-operative workplace systems
4. Developing an effective continuous professional development.

Reward Systems & Commitment

Any organisation that wants to reinforce employee behaviours in achieving the organisational goals and priorities must effectively and adequately implement their reward programmes (Hay Group, 2002). The Law of Effect states that behaviours that are rewarded tend to recur, and behaviours that are punished or not rewarded tend to weaken (Thorndike, 1911 cited in Baker and Buckley, 1996). In the knowledge-economy, HRM might need to develop a reward system that reinforces the acquisition, use and sharing of knowledge (Harman and Brelade, 2000). For this to be achieved organisations need to incorporate financial and non-financial elements which should be developed in consultation with those it is intended to reward. Workers in the knowledge-economy are most likely to be committed to an organisation if they work in an environment in which they are valued for what they are and what they do (Armstrong, 2003). Commitment is a psychological bond between employees and employers which comes from high job satisfaction and performance which reflects in a strong believe in and acceptance of the values and goals of the organisation. This can only be achieved by a well designed reward system based on promoting group performance and innovative thinking. This means that the organisation needs to develop a Community of Celebration (CoC) that and take notice of employees' input since most of them want recognition of their importance to the organisation.

Trust & Empowerment

Employees should experience a certain degree of emotional safety in their working relationships within the organisation. As KM is essentially about employees sharing their knowledge with each other and the organisation, they should be comfortable about doing this (Ahmed *et al*, 2002). It is through trust and teamwork that basic foundation for sharing is formed. Trust refers to one's perception of integrity, reliability and openness. It builds incrementally and it accumulates. The creation of

trust has been called the most vital prerequisite of knowledge exchange (Kelleher & Levene, 2001).

Knowledge will only be effectively communicated across an organisation if people have the necessary level of trust within and across the various teams. When employees trust one another, they will share knowledge and are more likely to listen to one another in a team situation.

The co-operation between the employee and the organisation, vital to improving performance, is precipitated on trust. Trust is essential. Collaborative forms of working developed by HR practices and policies encourage employees to trust the organisation. Such collaborative practice must be built to overcome the effects of 'not-invented-here' and 'knowledge is power' syndromes. HR practices and policies should strive towards creating an environment that reduces confrontational practices and embraces change.

An increase in KM practices reflects in bigger employees' responsibilities and hence a certain degree of freedom to practise their initiatives must be given. Employees need to be empowered to act in their personal capacity to make effective decisions.

Empowerment represents a shift towards a greater emphasis upon trust and commitment in the work place which involves the devolution of various degrees of decision-making power and responsibility (Pastor, 1997).

CONCLUSIONS

Knowledge management is about knowledge and people, as it is difficult to separate knowledge from the knower. The functions of HRM are vital in the management of organisational knowledge, since the people about whom HRM is concerned are everyday participants in KM. According to Yahya and Goh (2002), where the human element is present, any process, including knowledge management process, becomes uncertain and maybe difficult to handle. These problems and difficulties such as knowledge ownership, structural and cultural blockages, present the possibilities for HRM to play a significant role in KM. This involves ensuring that recruitment is done to fill knowledge gaps, creating an environment of trust that empowers employees to be innovative and re-designing reward system that breeds employees' commitment to organisational goals. The issues of training and development, that facilitate a culture where tacit knowledge is integrated with procedures and structures of the organisation, are also to be considered. While this paper has looked into the significance of HRM in KM; there is a question that deserves further examination. This question is how can organisations capitalise on the human resource aspects of KM? The continued relevance of HRM depends on it.

REFERENCES

- Ahmed, P., Kok, L. K and Loh, A (2002) *Learning through knowledge management*. Oxford: Butterworth-Heinemann.
- Allee, V. (1997) 12 Principles of knowledge management. *Training & Development*, **51**(11), 71-74.
- Armstrong, M. (2003). *A handbook of human resource management practice*. London: Kogan Page.
- Baker, D. F. and Bukley, M. R (1996) A historical perspective of the impact of feedback on behaviour. *Journal of Management History*, **2**(4), 21-33.

- Carrillo, P, Robinson, H, Al-Ghassani, A and Anumba, C (2004) Knowledge management in UK construction: strategies, resources and barriers. *Project Management*, **35**(1), 46-56.
- Cowlin, A and Mailer, C (1990) *Managing human resources*. London: Edward Arnold.
- Dainty, A. R. J, Bryman, A and Price, A. D.F (2002) Empowerment within the UK construction sector. *Leadership & Organisation Development*, **23**(6), 333-342.
- Davenport, T. and Prusak, L. (1998) *Working knowledge - How organizations manage what they know*. Boston: Harvard Business School Press.
- Davenport, T (1997) Known evils. *CIO*, **10**(17), 34-36.
- Druker, J., White, G., Hegewisch, A. And Mayne, L. (1996) Between hard and soft HRM: Human resource management in the Construction Industry. *Construction Management and Economics*. **14**(5), 405-416.
- Edwards, J (2001) Editorial. *European Journal of Information Systems*, **10**(2), 71
- Harman, C. and Brelade, S. (2000) *Knowledge management and the role of HR* London: Prentice Hall
- Hay Group, Inc. (2002) *Reward program implementation – missed opportunities*. www.haygroup.com. Accessed on 08/08/2003.
- Hendry, C. (1995) *Human resource management: A strategic approach to employment*. Oxford: Butterworth Heinemann.
- Hlupic, V, Poulodi, A and Rzevski, G (2002) Towards an integrated approach to knowledge management: 'Hard', 'soft' and 'abstract' issues. *Knowledge and Process management*, **9**(2), 90-102.
- Kelleher, D. and Levene, S. (2001) *Knowledge management: A guide to good practice*. London: Price-WaterCoopers/BSI.
- Loosemore, M; Dainty, A and Lingard, H (2003) *Human resource management in construction projects: strategic and operational approaches*. London: Spon Press.
- Malhotra, Y. (1998) Tools@Work: Deciphering the knowledge management hype. *Quality and Participation*, **21**(40), 58-60.
- Miller, F. J. (2003) *I=0 (Information has no intrinsic meaning)*. <http://www.sveiby.com.au/knowledgemangement.html>. Accessed on 5/3/2003.
- Nonaka, I. and Takeuchi, H. (1995) *The knowledge creating company: How Japanese companies create the dynamics of innovation*. Oxford: Oxford University Press.
- Osterloh, M., Frost, J and Frey, B. S. (2002) The dynamics of motivation in new organisation forms. *International Journal of the Economics of Business*, **9**(1), 61-77.
- Pastor, J. (1997) Empowerment: What it is and what it is not. *Empowerment in Organisations*. **4**(2), 5-7.
- Polanyi, M (1962) *Personal knowledge: towards a post-critical philosophy*. London: Routledge & K Paul.
- Quintas, P., Lefrere, P. and Jones, G. (1997) Knowledge management: A strategic agenda. *Long Range Planning*, **30**(3), 385-391.
- Raich, M. (2002) HRM in the knowledge-based economy: Is there an afterlife? *Journal of European Industrial Training*, **26**(6), 269-273.
- Respect for People Working Group (2000) *A commitment to people "our biggest asset"*. UK Report from the M4I working group on respect for people.

- Ruddy, T (2000) Taking knowledge from heads and putting it into hands. *Knowledge and Process Management*, **7**(1), 37-40.
- Scarbrough, H., Swan, J. and Preston, J. (1999) *Knowledge management: A literature review*. London: Institute of Personnel and Development.
- Schein, E. H. (1996) Three cultures of management: The key to organisational learning. *Sloan Management Review*, Fall, 9-20.
- Skyrme, D (1999) *Knowledge networking: Creating the collaborative enterprise*. Oxford: Butterworth-Heinemann.
- Storey, J and Quintas, P. (2001) Knowledge management and HRM. In: Storey, J. (eds.) *Human Resource Management: A Critical Text*. Cornwall: Thomson Learning.
- Swan, J., Newell, S., Scarbrough, H and Hislop, D. (1999) Knowledge management and innovation: networks and networking. *Journal of Knowledge Management*, **3**(4), 262-275.
- Thuraisingham, B., Gupta, A., Bertino, E. and Ferrari, E. (1998) Collaborative commerce and knowledge management. *Knowledge and Process Management*, **9**(1), 43-53.
- Tymon, G. W., and Stumpf, S. A (2003) Social capital in the success of knowledge workers. *Career Development International*, **8**(1), 12-20.
- Wells, B. and Spinks, N. (1997) Fifteen steps to a complete human resource program. *Management Development Review*, **10**(1), 37-39.
- Wensley, A (2001) Culture, knowledge management and knowledge transfer. *Knowledge and Process Management*. **8**(1), 1-2.
- Wiig, M. K. (2000) Knowledge management: An emerging discipline. In: Despres, C., and Chauvel, D (eds.) *Knowledge horizons: the present and the promise of knowledge management*. Woburn: Butterworth-Heinemann.
- Wiig, M. K. (1997). Knowledge management: An introduction and perspective. *Journal of Knowledge Management*, **1**(1), 6-14.