THE IMPACT OF HUMAN RESOURCE POLICIES AND PRACTICES ON KNOWLEDGE MANAGEMENT IN THE CONSTRUCTION INDUSTRY.

Anthony Olomolaiye¹ and Charles Egbu²

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

In recent times, there has been increased awareness that organisational knowledge might be the key to organisation success. In most construction organisations such knowledge is dispersed and fragmented, since much of it exists in diffuse social networks. To prevent failure, knowledge management (KM) has to be properly implemented in organisations. This invariably implies that construction organisations must address the needs of workers who supply this knowledge if they are to successfully exploit their skills. The extent to which organisations will be willing to co-operate in this process would depend to a great extent on the nature of human resource management (HRM) policies and practices. This paper, which is based on an empirical investigation of the role of HRM in KM, analyses the problems related to KM and the probable solutions through HRM. It argues that since knowledge is the unique human capability of making meaning from information, employees should be the focus of any KM initiatives. The consequences of poor HRM practices on KM initiatives are discussed and some observations are made about the importance of a ‘no-blame’ culture and trust to effective KM within construction organisations.

Keywords: human resource management, knowledge management, organisational culture, trust.

INTRODUCTION

There is a general acceptance, in recent times, that knowledge management (KM), and its exploitation, is vital for efficient working in projects and for improving organisational performance. Fundamentally, KM deals with making the collective knowledge and experience of an organisation available to individual employee, who is responsible for using it wisely and for replenishing the stock (Army Knowledge Online, 1999). This on-going cycle encourages a learning organisation, stimulates collaboration and empowers employees to continually enhance the way they perform their work. KM also increases organisational value, enhances performance, confers competitive advantage and improves return on investment through the use of various tools, processes, methods and techniques (Snowden, 1999; Kamara et al, 2002).

Construction organisations rely to a great extent on the knowledge, skills and competencies of their workforce in order to establish and achieve organisational goals. However, the extent to which the recognition of individual knowledge manifests itself in the effective management of organisational knowledge, for the purpose of gaining competitive advantage, remains questionable.

¹ a.olomolaiye@gcal.ac.uk 0141 331 8038
² c.egbu@gcal.ac.uk 0141 331 8968

Commentaries in both academic and practitioner communities have also suggested that any KM initiative without the critical understanding of the contributions of employees’ knowledge to organisational knowledge will fail, no matter how much senior management promotes such initiatives. To prevent this, KM has to be properly implemented in construction organisations. This invariably implies that construction organisations must address the needs of workers who supply this knowledge if they are to successfully exploit their skills by developing a greater appreciation of their intangible human assets, captive in the minds and experiences of their employees. The extent to which construction organisations will be willing to co-operate in this process would depend to a great extent on the nature of human resource management (HRM) policies and practices prevailing in the organisations.

CONSTRUCTION INDUSTRY AND KM

The construction industry is a strong, knowledge-based industry that relies greatly on the knowledge contribution of diverse participants in a project team. The knowledge gained in previous projects is expected to be ploughed back into new projects and learning opportunities are deemed necessary towards the encouragement of knowledge sharing. This shows that the industry is knowledge dependent and like every other industry, improvement which would bring about higher profitability is the core of its focus. The construction industry is also seen as one of the highest employers of labour in the economy and it contributes significantly to the GDP with much of its variable cost 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 (Tymon and Stumpf, 2003). Besides, the industry is seen as a mixture of both core and periphery employees which pose a difficult challenge to managing organisational knowledge.

This makes construction industry one of the most challenging environments in which to manage people effectively in order to ensure that they successfully contribute their knowledge towards 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. Such features present an antithetical picture to the critical success factors portrayed in current knowledge management literature.

KNOWLEDGE – AN ASSESSMENT

Knowledge is ‘power’, both to the organisation and to individual employees, with the ability to confer competitive advantage on the possessor. Knowledge can also be seen as employees’ bargaining power with the intention of securing or retaining their employment within the organisation. This has led to the question been asked about what is knowledge. It is evident in the body of literature that a lot of importance is attached to the definition of knowledge (Chauvel and Despres, 2002). How people define knowledge influences how it would be managed (Allee, 1997).

Several definitions of knowledge have been proposed in the literature. Knowledge has been defined as “information interpreted by the individual and applied to the purpose for which it is needed” (Bender and Fish, 2000). Orange et al (2000) describe knowledge as “the product of learning which is personal to an individual”. Rennie (1999) defines knowledge as “know-why, know-how and know-who”. Davenport and
Prusak (1998) also define knowledge as “a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information”. This knowledge, according to Davenport and Prusak (1998) originates in the minds of the “knower” and often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms. Uniquely, the human capability of making meaning out of information is deemed very important to knowledge (Miller, 1999). Knowledge is context specific; the knowledge produced by an individual will vary from that which another person will produce if the context is not the same.

Types of knowledge
Knowledge can be classified as either tacit or explicit depending on the complexity of capturing or codifying it. Tacit knowledge is the knowledge that resides in human brain and cannot be easily captured or codified (Wong and Radcliffe, 2000; Nonaka and Takeuchi, 1995).

Tacit knowledge expresses itself in human actions in form of evaluations, attitudes, points of view, commitments, motivation and schemata stored so deep in the worldview of an individual that it is often taken for granted such as the ability to recognise faces, bicycle riding, etc (Koskinen et al, 2003; Polanyi, 1962). While tacit knowledge represents great value to the organisation, by it is nature, it is far more difficult and sometimes impossible to capture and diffuse (Koulopoulos and Frappolo, 1999).

Explicit knowledge, on the other hand, is that knowledge that can be articulated in formal language and easily transmitted amongst individual (Koulopoulos and Frappolo, 1999). Thus, explicit knowledge can be compressed into a few summary symbols that can be encoded by language in written words and/or machine. By its very nature, explicit knowledge is capable of being captured and widely distributed throughout the organisation. These various forms of knowledge need to be managed for greater organisational success.

RESEARCH METHODOLOGY
This paper is part of an on-going PhD research on how construction organisations can capitalise on HR aspects of KM for performance improvements. This paper primarily reports on the pilot study conducted as part of the overall PhD study. In the pilot study, semi-structured interviews were conducted. This involved twenty-six (26) construction professionals from ten (10) organisations based in Scotland. These professionals were mainly Construction Directors, HR Managers, Project Managers and Construction Managers. The semi-structured interviews provided the researcher with a relatively flexible format for the gathering of data (Creswell, 2003; Robson, 1993). The semi-structured interviews for the pilot study allowed in-depth and generally applicable data to be gathered.

The questions were formulated in such a way that each question addressed specific variables in the research objectives. The questions were pre-tested, using a small number of respondents (six people who are construction professionals; the pre-test participants did not participate in the final interviews). Their suggestions and contributions were taken on-board in the final draft of the questions. In doing this, the researcher ensured that the final questions were direct, specific, clear while avoiding double-barrelled questions, leading or emotive questions, and questions which are too complex or ambiguous.
The semi-structured interviews were conducted face to face at the premises of the participants. Face to face interviews have the advantage of providing both the interviewer and interviewee with non-verbal cues which promote the development of rapport between the interviewee and the interviewer. The main drawback with face to face interviews is that they tend to be more costly, in terms of time and money, than telephone or video-conferencing interviews.

The respondents were allowed to discuss issues as they arose. The result of this “open” approach was a richness of data. The principle of well-informed consent was employed, so that contributors got a clear picture of the subject, as well as their role and position in it, before participating. At no point of interaction, were they made to feel obliged to contribute their views, ideas, or experiences under duress. The interviews were recorded on audio tape with the consent of the participants.

**Data Analysis**

The data collected from the semi-structured interviews were tape-recorded and transcribed verbatim. This ensured that the data are in permanent form and hence can be subject to re-analysis, allowing reliability checks. The data were analysed using content analysis. Content analysis is a research methodology that examines words or phrases within a wide range of texts (Leedy and Ormord, 2001). It is used to determine the presence of certain words or concepts within texts or sets of texts.

The initial coding structure, which involved reducing the text to categories and coding for words or patterns, was derived from the literature.

**FINDINGS AND DISCUSSIONS**

![Fig 1: Challenges associated with managing HR for KM](image)

Fig 1 shows the responses from participants in the pilot semi-structured interviews. In varying degrees of importance, seven (7) main issues were identified from the analysis of the data as challenges in managing HR for KM. Five (5) people, representing nineteen percent (19%) out of the twenty-six (26) people who participated in this pilot study, noted that developing an appropriate organisational culture that encourages knowledge sharing is the most important challenge in managing HR for KM. Another nineteen percent (19%) were of the view that retaining skilled and experienced workers who are willing and ready to share their knowledge with their colleagues is a challenge. Four (4) participants, representing fifteen percent (15%) of those who took
part in the pilot study, believed that reducing confrontational practices in order to build trust so that knowledge can be shared freely amongst colleagues is more challenging than recruiting candidates with positive attitude towards knowledge sharing. Again, fifteen percent (15%) noted that linking employees’ career development within the organisation to their contributions to knowledge sharing is more challenging than training employees to increase their level of participation in knowledge sharing. Finally, eight percent (8%) of the participants were of the view that appraising employees’ performance in the way they share their knowledge is a challenge. These challenges are discussed below in more detail.

Recruitment and Selection

The advent of HRM brought with it the development and acquisition of strategic skill and competency pools. This is commonly associated with the search for recruits with skills and experiences from within and outside the organisation.

This study reveals that construction organisations could depend on HRM to close the gap in critical skills needed for KM in order for organisations to be able to compete. This would seem to involve looking at recruitment and selection 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).

Excerpts from the interview transcripts reveal that recruiting candidates for their knowledge sharing disposition is still a challenge as exemplified by the following comment from one of the HR Managers:

“Recruitment is very reactive because we do not, at this point in time, recruit against strategic organisational knowledge needs. We recruit against established needs.”

The selection and recruitment process should be designed to emphasise primarily on the candidate’s ability to ‘fit in’ to the organisation’s distinctive way of working, which involves a genuine willingness and ability to collaboratively participate in KM. The most important issue that managers consider when recruiting candidates for new jobs or roles is the attitude of the candidate to be recruited and how willing they are towards sharing their knowledge with others. Twelve-percent (12%) of the respondents noted that it is very challenging to recruit candidates who demonstrate a positive attitude towards knowledge sharing.

Again, twelve percent (12%) of the participants were of the view that one of the major challenges of recruiting employees pertains to the reluctance of some managers within the construction industry to recruit candidates who they felt will take over their jobs in the near future. This is very noticeable when a manager who has no University degree is faced with recruiting candidates who have very impressive academic qualifications.

How construction organisations will solve this particular challenge depends on the existing culture within the organisation.

Staff Retention

Due to the scarcity of workers with requisite knowledge and experience, there is the likelihood that competitors will constantly be attempting to entice knowledge workers from other competing organisations (Robertson and Hammersley, 2000). The issue of retention, according to nineteen percent (19%) of the participants, is essential as management will have to continually aspire to provide the type of environment that encourage knowledge workers to remain loyal to the organisation. Two (2) of the managers interviewed noted that:
“Good quality staff with good quality knowledge is poachable by other competitors.”

“I think the issue that are being debated now (in the organisations) are issues like the quality of life, and hours to be worked. It is going to be important, otherwise we would lose people.”

One of the organisations that participated in this study retains the expertise of their employees through the introduction of a structured identification process of key employees that the organisation can not afford to lose. This method involves the broad categorisation of employees into three (3) groups, Category (A) are employees who have made major impact on the organisation’s business, Category (B) are employees whose impact is minimal and Category (C) is made up of employees who have not made any noticeable impact on the organisation’s business. Employees in Category (A) are deemed paramount to the success of the organisation and are seen as a source of competitive advantage. Every attempt is then made to retain them. Such attempts include, but not limited to, offering them better package than other workers in the organisation, giving them an environment that is conducive to creative working and special recognition of their talents and contributions to the organisation. Such employees are sometimes offered the opportunity to buy some of the houses built by the organisation at a greatly discounted and highly subsidised price far below the market value.

One of the managers interviewed noted that his main task is:

“...convincing them (knowledge and skilful workers) that they would be a much bigger fish in this group than they would be anywhere else... We value people the way we value our families. We like the family environment. We look after our people. We don’t let them down. We try to produce a picture of ourselves as being a company with choice that people want to work for”.

Sometimes, employees whose skills and knowledge are vital could still leave no matter what process is put in place to retain them. Geographically, in Scotland where this study was conducted, most employees do not want to work outside their locality - Scotland. Therefore most of these workers who work for global organisations would not be easily motivated to work in Sydney or New York where there might be challenging tasks that might require their expertise and knowledge. What most of these workers want to know is where the next job would be. Would it be in Edinburgh? Is it in Glasgow? Is it going to be in Aberdeen? The ability to retain these employees is largely driven by the organisational ability to secure projects regionally.

**Performance Appraisal**

Performance appraisal allows the organisation to retain and reward high performers and offer guidance. It should also create an environment where employees feel valued and freely contribute their knowledge towards organisational development. Situations where performance appraisals are not well-handled could create a barrier to successful knowledge sharing. The expectation of employees is that a high performance rating will yield a high salary increase, while a low performance rating will result in a low salary increase.

Hansen et al, (1999) suggest that employees’ performance rating should be linked to reward in monetary and non-monetary terms for knowledge creation and/or knowledge sharing. But reasons such as budget constraints and salary ceiling have been cited as influencing salary increase. Eight percent (8%) of the participants in the pilot study noted that performance appraisal is a challenge in managing HR for KM,
though most of the time employees are subjected to a salary increase that does not coincide with their performance rating. This finding supports the views of Smith and Rupp (2003) who believe that the relationship between performance appraisal and salary increase is still not very strong. This pilot study also found that in the construction industry there is no direct appraisal of employees’ performance when it comes to knowledge sharing. But employees who are quite sociable, who are prepared to be communicators and who work with other people are sometimes scored very high on performance rating. These set of employees improve working relationship by bringing their knowledge to bear and it tends to reflect on their interpersonal skills since projects in the construction industry are based on teamwork.

Organisational Culture
One of the factors that promote KM is the creation of a culture favourable to knowledge sharing (Scarborough et al, 1999; Gourlay, 2001). Culture gives employees a set of ‘cognitive map’ with which to understand and influence behaviour and a social justification for what the employees are doing through shared beliefs. Organisations need to develop the type of culture most conducive to nurturing the trust level and quality of relationship necessary for employees to create and share knowledge.

Nineteen percent (19%) of those interviewed are of the view that ‘knowledge is power’ syndrome still persists in their organisation and this has hindered knowledge sharing greatly. This is reflected in the words of one of the participants:

“If I am the only person who have the knowledge to do a certain activity or have knowledge on a particular aspect of work why should I share that? Or in the time of recession or job shortage, why should I tell you how to do anything?”

Achieving a cultural change is not an easy task as the organisation has to build a whole support system for the new culture and make the new customs/values more attractive than the old ones. It is also very important for employees to understand that there is a ‘no-blame’ culture within the organisation as a ‘no-blame’ culture will encourage employees to share and create new knowledge.

Training and Skills Development
Twelve percent (12%) of those interviewed believe that training employees to increase their level of participation in knowledge sharing is a challenge in managing HR for KM. The aim of training is to change behaviour in the workplace in order to stimulate efficiency and higher performance standards (Cowling and Mailer, 1990). It 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. 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.

Each mistake made in the organisation can also serve as a source of training for employees since most construction organisations find it very difficult to make time available to send site personnel for training due to the ‘time-pressured’ nature of the industry. Therefore employees can learn lessons through post project review exercises. One of the HR managers who participated in the study noted that:
“Let’s say you want to run a training course here on how to do better planning; I’ve got to get them off the site. So what do I do? The site is unmanaged and it becomes a logistical challenge.”

It was also suggested that foremen should be trained on how to articulately communicate their knowledge to others. This is reflected in the views of one of the managers:

“We also find certain situations where more experienced people who have been in the industry longer and with trades’ background don’t have the skills to stand up and put forward their experiences in a view to train people.”

Hence, soft skills training might be essential to the future training of construction professionals.

Trust

Trust refers to one’s perception of integrity, reliability and openness. The creation of trust has been called the most vital prerequisite of knowledge exchange (Kelleher and Levene, 2001). Trust is based on perception and perception itself is psychological. It is very easy to betray trust. But when a feeling of trust becomes established it affects the perception of employee’s motives more than the effect of behaviour itself. Without trust any initiatives, most especially KM initiative, can fail even if the survival of the organisation depends on it (Davenport and Prusak, 1998). Knowledge will only be effectively communicated across an organisation if people have the necessary level of trust within and across various teams. Employees should experience a certain degree of emotional safety in their working relationships within the organisation. When employees trust one another, they will share knowledge and are more likely to listen to one another in a team situation.

Fifteen percent (15%) of those interviewed, noted that trust is a challenge in managing HR for KM and construction organisations should strive to reduce confrontational practices in order to build trust so that knowledge can be shared freely amongst colleagues. This is because the effect of trust on knowledge sharing is very high. The greater the level of trust, the greater the level of accessibility and the better the opportunities for tacit knowledge to be transferred (Koskinene et al, 2003). Employees would need to have trust in the integrity of the organisation as a whole and be re-assured that they will be respected after they have contributed their knowledge. This is reflected in the views of two (2) of the participants in this study:

“...trust has to be earned. Trust is something that comes with time, with understanding and building a relationship and trust doesn’t come quickly.”

“In some cases people don’t want to share their knowledge, because there is no trust and they feel knowledge is power.”

Trust will put all team members on the same wavelength to share knowledge. But building up trust with employees takes quite a bit of time and an avenue should be found for employees to develop “swift trust” (Meyerson et al, 1996).

Rewards

Any organisation that wants to reinforce employee behaviours in achieving organisational goals must effectively and adequately implement their reward programs (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). This shows that rewards are necessary to strengthen behaviour. Fifteen percent (15%) of those interviewed are of the view rewarding employees for participation in knowledge sharing constitutes a major challenge. This is because employees are motivated differently. Some are motivated by money, some by position and some by recognition. Two of the interviewees noted that:

“I don’t think there is a direct reward for knowledge.”

“Sometimes it is difficult to reward people for given knowledge.”

An example of such challenge is that of a developing an appropriate remuneration and promotion system which rewards general foremen who share their knowledge with other colleagues. If a general foreman who is highly valued for the roles s/he plays as a foreman desires to be a project manager but the organisation feels that s/he would be more effective as a foreman because that is his/her area of expertise, then there is the challenge of the general foreman resenting the project manager and not co-operating with him/her. On the other hand if a general foreman has been told by the organisation that s/he is valued for his/her knowledge and leadership and s/he would be rewarded for being the mentor and guide for new employees, s/he is almost the training manager for up and coming employees. But it has to be done with openness, honesty, trust and loyalty. There is a need to include non-financial rewards (such as recognition, higher responsibilities and career growth) into the remuneration system to promote knowledge sharing

CONCLUSIONS AND RECOMMENDATIONS

The success of KM in the construction industry has been shown in this paper to be strongly associated with the HRM practices and policies inside the organisation. There are challenges that HRM practitioners will encounter in attempting to motivate workers to share their best practices and lessons learned. This includes the challenges of designing the recruitment and selection process to lay emphasis on candidate’s willingness to collaboratively participate in KM. Construction organisations will also need to continually aspire to provide the type of environment that encourage knowledge workers to remain loyal to the organisation. This would involve the creation of an environment where employees feel valued and freely contribute their knowledge towards organisational development.

Construction organisations need to develop the type of culture most conducive to nurturing the trust level and quality of relationship necessary for employees to create and share knowledge. This is because knowledge can only be effectively communicated across an organisation if people have the necessary level of trust within and across various teams. Employees would need to experience a certain degree of emotional safety in their working relationships within the organisation. When employees trust one another, they will share knowledge and are more likely to listen to one another in a team situation. It is also very important for employees to understand that there is a ‘no-blame’ culture within the organisation as a ‘no-blame’ culture will encourage employees to share and create new knowledge. Each mistake made in the organisation should be viewed as a source of training for employees. Also, soft skills’ training and the inclusion of non-financial rewards (such as recognition, higher responsibilities and career growth) into the remuneration system are essential to the success of KM in the construction industry.
REFERENCE


