A Framework for Designing Training for Construction Site Managers

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Abstract. Inadequacies in considering the variable backgrounds of site managers during the process of designing their training have been cited as one of the reasons for the small number of adequately trained site managers within the UK construction industry. It is argued that the job of site managers are significantly influenced by the situational, organizational and personal variables that impact their job and this tends to render generic training schemes offered at the industry not very effective. A research was carried out to investigate the validity of this claim. On the assumption that these variables can have a significant influence on the roles and tasks of site managers, the research sought to establish a tangible approach for conceiving the training of site managers at the industry level. The findings suggest that the roles and tasks of site managers’ are generally common across the varied background site managers, construction organisations and types of projects. A generic framework for conceiving the roles and tasks of site managers at the industry level can be established.

Keywords: Construction industry, site managers, training, roles and tasks of site managers

INTRODUCTION

While training has been recognised as the fundamental approach to assist the UK construction industry meet the increasing demand for adequately trained and qualified site managers, problems of supply and poor training of site managers is persisting (DTI, 2004; Hassan et al 2004). A research investigating approaches for improving the framework for training site managers was undertaken. Part of its finding suggests that the basis on which training for site managers is perceived should be reinvestigated. This presents the part of the research which investigate the roles and tasks of site managers to establish the context within which site management training provisions should be conceived. The terms of reference for investigating the roles and tasks for the research were developed from the culmination of earlier researchers. The roles and tasks of site managers was re-investigated against the site managers’ personal, organizational and project variable background. In the main, it was identified that site managers’ roles and tasks in all construction projects are fundamentally common to suggest the basis from which initiatives to improve their training should be configured.
RESEARCH METHOD

The Conceptual Framework
The research conceptual framework was developed by drawing data from current and key concepts on training, site management, site managers and their training from literature, research papers and examples from other successful industries. The themes drawn culminated to contextualise the research were as follows:

Training
Training spawns within the realms of learning in the context of human and organisation development. Training is identified as one of the most effective vehicles for learning which in-turn will contribute to quality and performance improvements of people in their job (Kearns 2005; Mullins 2004). Effectiveness of training pivots on the purpose of the training and successful training undertakings are hallmarked by the benefits derived collectively by the trainee, the employer, the job. As it is focused on people, the understanding the human behavior within the scope of their job and the organisation, should be the foundation of any education and training undertaking (Bee and Bee, 2003; Bechtle and Squires 2001).

Context of training in the UK construction industry
Notwithstanding the call for better development of people and training (Drucker and White, 1996; Fryer 2004; Olomolaiye A. and Egbu C. (2004), a multitude of factors challenge effective training. DTI (2004) reports that construction in the UK has remained fairly traditional while Mackenzie et al (2000) observe that the traditional responses to shortage of any type of skilled labour by employers is not to train but to increase remuneration and poaching of workers from others. Construction News (2004) report that managers in construction are overworked. The DTI (2004) reports that people working in the construction industry are more likely to work in small firms or quite likely to be self-employed. They work longer hours but are paid around the average salary of other industries. The probability of them getting injured or killed at work is higher due to poor consideration for health and safety at the workplace. Dainty and Edwards (2003) and Mackenzie et al (2000) reports that poor appreciation the human resource potential negatively impact human development initiatives and training.

Variables impacting on the construction site managers’ job

Figure 1: Framework of Roles and tasks of Site Managers in construction projects (Adapted by Hassan, 2004)
The roles and tasks performed by site managers were drawn from the researchers by summarised by Hassan (2004) as shown in Figure 1. The variables investigated for their impact on the site managers’ job were: (i) size of the construction organization (ii) type of construction projects undertaken, and (iii) background of the site manager i.e. the site managers’ career progression path into site management.

Site management training in the UK
Exacerbated by the issues of training, the training of site managers within the construction industry was found to be very lacking (Burgess, 1999). Most training provided tends to centre on health and safety
primarily because it is an industry requirement. Even when training is offered, it is often varied and in most cases very ad-hoc (Hassan et al., 2004). At the industry level, site management training is provided by the Chartered Institute of Building’s Certificate and Diploma in Site Management (CIOB C/DSM) and National/Scottish Vocational Qualifications Site Supervision and Site Management (NVQ/SVQ SS/SM) training schemes, which are recognised at NVQ/SVQ Levels 3 and 4. Both schemes though varied in their training approach, run on a modular, qualification-based, on-the-job and off-the-job training framework.

The Research Method, Data Collection, Processing and Analysis

Following the pilot research process, postal and internet questionnaire surveys were administered. The participants were site managers, construction managers, project managers, contract managers (representing employers) and trainers/managers from training organisations/colleges offering the CIOB C/DSM and NVQ/VQ SS/SM training. Data were collected from 232 respondents which comprised 116 site managers, 89 senior managers (representing construction employers) and 27 trainers/managers from training organisations/colleges. The respondents were chosen on the consideration that they are the key stakeholders in the provision of training for the industry’s site managers, and are directly involved in the site managers’ training. SPSS Version 12 software was used to analyse the data. The breakdown of the composition of respondents as sorted according to the variables for the analysis is shown in Tables 1-4. Descriptive and inferential statistics were adopted to verify the results of the analysis. Frequency analysis was adopted as the measure of central tendency, Spearman Non-Parametric Co-Relation Analysis was used to measure strength of relationships and Analysis of Variance (ANOVA) test were employed to measure the strength of commonality within the values registered from the respondents.

RESULTS FROM THE ANALYSIS

The roles and tasks performed by site managers identified from Figure 1 were adopted to map the perception of their importance. Data drawn from the respondents were triangulated and averaged during the analysis. From the analysis of median and ANOVA, the results which suggest the levels of importance of the roles and tasks as perceived commonly by the respondents emerge as shown in Figures 2-5. Results from the analysis of median reveal that all the roles and tasks of the site manager were considered important with most of the results registering values above 3.00* (measured over 4.00*). Results from the Spearman Correlation Coefficient Tests which measure the strength of correlation of values between the variables registered very low values (<0.10 or <-0.10) to suggest that that these variables does not have considerable influence on the these roles and tasks in construction projects. With the exception of the importance of managing labour (0.80 score), materials (0.74 score) and sub-contractors (0.72 score), ‘moderately low’ ANOVA values were recorded for the managing plant (0.33score), staff (0.22score) and responsibilities to clients, consultants and design team (0.12score), all the other ANOVA test result registered very low values (<0.10). This implies the strong agreement between the respondent site managers, senior managers and training providers on all the other roles and tasks.
The roles and tasks of site managers

![Figure 2: Importance of managing resources](image1)

![Figure 3: Importance of managing to achieve project objectives](image2)

![Figure 4: Importance of administrative and sundry duties](image3)

![Figure 5: Importance of responsibilities to Third Parties](image4)

**FINDINGS FROM THE RESEARCH**

Notwithstanding the different perceptions on the importance of managing labour, materials, sub-contractors, plant and staff resources; together with responsibilities to clients, consultants and design team between the respondents, the results emergent from the analysis suggest that site managers are expected to undertake a range of common site management roles and tasks within their job as identified in Figure 1. It was not within the context of this research to investigate the justification for the difference in the respondents’ perception and this is suggested a subject of further research.

The overall results support the view that technical skills of planning, organizing and controlling resources are the important tasks which site managers have to perform to achieve the project objectives of health and safety, time, money and quality. A significant part of the site managers’ role is to also assist the office management, undertake pre-contract tasks, and manage the project’s primary stakeholders. In undertaking these tasks and responsibilities people management skills such as communicating, motivating and training are very important. This converges to infer that technical skills and social skills are equally important skills and knowledge that site managers must possess. Within the context of roles and tasks framework drawn for the research, it emerged the elements of the site managers’ roles and tasks for their training are common. Neither size of construction organisation, type of construction project, the background of site managers have very significant impact on the importance of these roles and tasks. This propounds the view that generic training for site managers at the industry level, if effectively designed to meet the site managers training needs at the industry level.

**CONCLUSION**

Understanding the roles and tasks of site managers against the context of the
organisation, project setting and the site managers’ background are significant key elements that must be considered when designing training for site managers. The research posits that this should be the fundamental focal point of for in the design and delivery of training for site managers, particularly in the construction industries that have adopted the UK model.

References: