

AN EMPIRICAL STUDY OF THE TRAINING NEEDS OF SITE MANAGERS WITHIN THE UK CONSTRUCTION INDUSTRY

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Inadequacies during the process of determining the training needs of site managers have been cited as one of the reasons for the small number of trained site managers. As training needs analysis (TNA) identifies the performance or competency 'gap' when designing training, such inadequacies imply that an improved TNA is necessary to determine precisely the training needs of site managers. This paper presents the findings of an on-going research study which in part investigates this. Underpinning this investigation is the premise that the training of site managers must consider the varied background of site managers, the context of the organisation and project setting within which the site managers perform. The emergent findings suggest that although there are some 'weak' relationships between a number of variables investigated, in the main, the training needs of site managers are generally common across site managers, construction organisations and projects. However, there are some significant differences in the perception of the importance of training needs between site managers, training/course providers and senior project/construction managers.

Keywords: Training , training best practice, training needs analysis, site managers, roles and tasks of site managers, site managers' training needs.

INTRODUCTION

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. However, the problem of supply and poor training of site managers is persisting as construction organisations are finding it more difficult to find competent site managers for their projects (CITB 2000; Hassan *et al* 2004).

A research investigating approaches for improving the framework for training site managers was undertaken and part of its findings suggest the basis on which training for site managers is perceived should be reconsidered. This paper presents parts of the findings which investigate site managers' training needs with the aim to establish the context within which site management training provisions should be conceived. The research methodology was outlined before the research findings are presented. In concluding, it was found that in the main, site managers have training needs which are fundamentally common; to suggest the basis from which initiatives to improve their training provisions 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 (Handy 1999; Mullins 2002; Matrix 1998; Mabey and Iles 1994; Osborne 1996). 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 training undertaking. (Wills 1994; Beaton and Richards 1997; Bechtel and Squires 2001; Davis and Davis 1998; Johnson 1997; Martin 1998; Bentley 1991)

Training needs and Training Needs Analysis (TNA)

Training is associated with the performance of people in their job and performance 'gaps' imply that there is a shortfall somewhere in their knowledge and/or skills to undertake certain roles or tasks. Training needs analysis (TNA) is a vital part of the training design process which endeavors to reduce the 'gap' by finding out what needs to be learnt (Anderson 1994; Bentley 1991; Reid and Barrington 1994; Garavan 1997). Without TNAs, there can be no solid prognosis to diagnose if the whole training process was correctly designed (Bee and Bee 1998; Wills 1994; Anderson 1994).

Converging literature (Bee and Bee 1998; Wills 1994; Anderson 1994; Bramley 1996; Truelove 2001) suggest that for training to be holistic, the three TNA processes of; (i) identifying the range and extent of training needs from business needs, (ii) specifying the needs precisely, and (iii) analysing how best training needs must be observed, should be carried out at the organisational level, at the job-level and the person level within the organisation. Observations, questionnaire surveys, fact-finding interview or Delphi techniques are the common methods for collecting TNA data whilst line managers, training consultants, trainees or trainers should be the key parties to the TNA (Reid and Barrington 1994; Fletcher 1997).

TNA approaches must be carefully articulated. The 'supply-led' approach which is usually trainer-driven can be inaccurate as trainers could lack management experience or knowledge on real operational issues; the 'demand-led' approach is business orientated and usually emphasise on bottom-line which often leads to neglect of employees needs; the 'process-led' approach is too localised for divisions or

departments to be introduced in an effective manner, and; ‘trainee-centred’ approach which relies on self-assessment has drawn strong criticism as they have the tendency to reflect more of employee wants instead of needs. An integrated approach combining these methods annul out any weakness would be ideal but can be expensive and time consuming (Chiu *et al* 1999).

Variables impacting on the site managers’ job

The roles and tasks performed by site managers, which is the fundamental element of the site managers’ training identified by the research is as shown in Figure 1. The variables identified and their impact on the site managers’ job underlined for the research were drawn from the findings of research studies undertaken by Farrell (1999), Mustapha (1990), Sorrell (2000), Houlston (1999) and Arshad (1997). These were: (i) size of the construction organization; (ii) type of construction projects undertaken (new build works, existing build works, non-building works, and the combination of the different types of work); (iii) background of the site manager (craft, academic or craft/academic); and (iv) the site managers’ project experience.

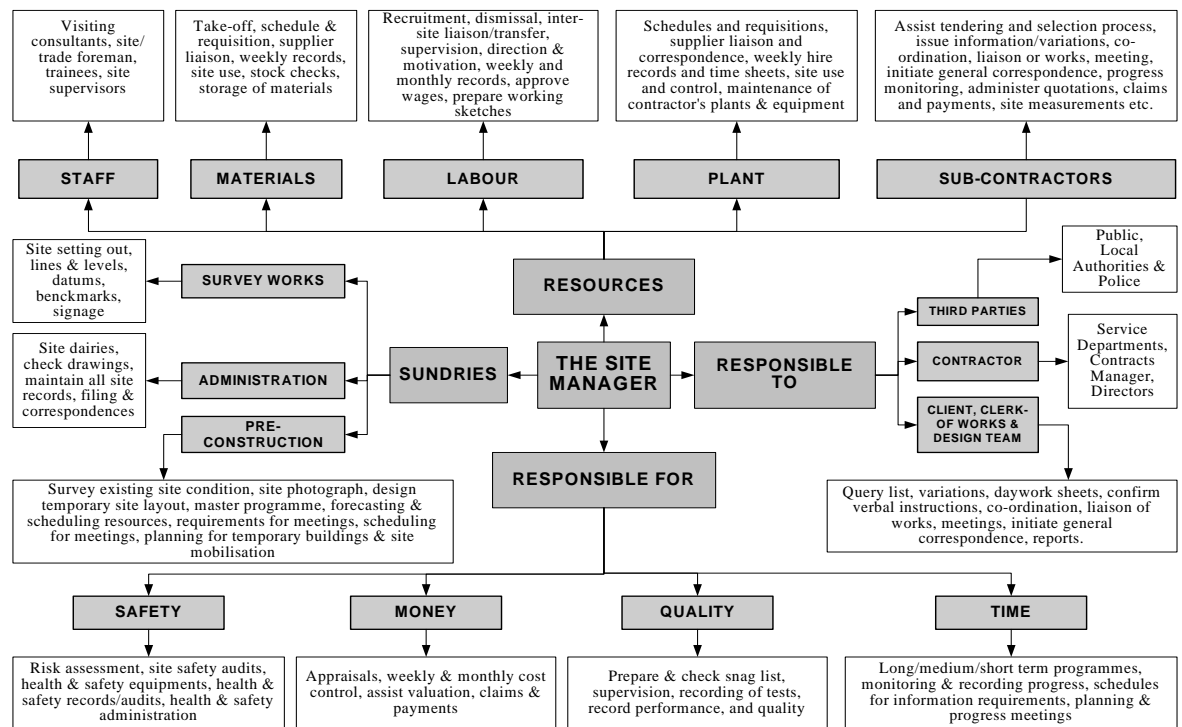


Figure 1: Roles and tasks of Site Managers in construction projects (Adapted from Farrell (1999))

Provision for site management training offered at the industry level

Training of site managers within the construction industry was found to be very lacking and most of the training provided to site managers 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. 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. Evidence from the research found participation to the trainings poor (Hassan *et al* 2004) whilst critics that propound the inadequacies within the training provisions were found amongst others from Dainty and Edwards (2003), CITB (2000), Burgess (2000), Mackenzie *et al* (2000), Akintoye (1995) and CIOB (2003).

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 mangers (representing construction employers) and 27 trainers/ managers from training organisations/colleges. 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.

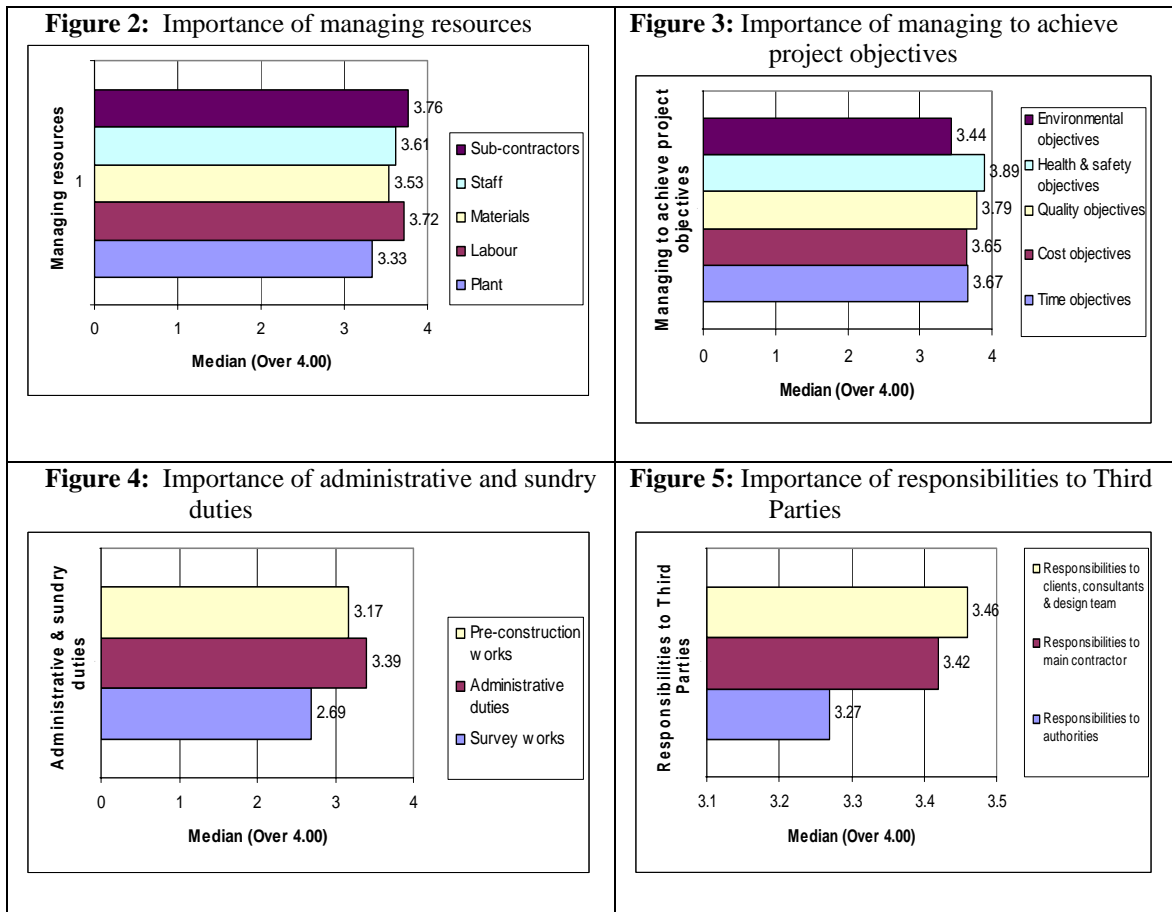
Table 1: The survey respondents			Table 2: Respondents based on size of firm			
	No. of Respondents	Cumulative Percentage		Site Managers	Senior Managers	
Site Managers	116	50%	Small	23	12	
Senior Managers	89	88%	Medium	46	35	
Training Organisations/ Colleges	27	100%	Large	47	42	
Total	232		Total	116	89	
Table 3: Respondents based type of projects				Table 4: Site Managers based on their career progression paths		
	Site Managers	Senior Managers	Total		No. of Respondents	Cumulative Percentage
New building	23	10	30	Craft	52	45%
Existing build	46	8	24	Academic	32	73%
Non-building	0	5	5	Both (Craft and Academic)	32	100%
Any combination of projects	80	66	146	Total	116	
Total	116	89	205			

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 analyse variance within some of the results.

RESULTS FROM THE ANALYSIS

The roles and tasks of site managers

The roles and tasks of site managers were first investigated. The identified roles and tasks performed by site managers (from Figure 1) were adopted to map the perception of their importance. Data drawn from the respondents were triangulated during the analysis. From the analysis of median and ANOVA, the results which suggest the levels of importance of the roles and tasks emerge as shown in Figures 2-5.



Two interesting findings emerged from the Spearman correlation coefficient tests. First, it was found that there was a weak but significant negative relationship between size of construction organisations with *managing labour* and *materials* to infer that there was a small tendency for larger construction organisations to consider managing these resources less important for their site managers. The second was a weak but significant positive relationship between size of the construction organisations with the importance of managing projects to achieve *environment objectives*, to perform *pre-construction works*, undertake *survey works*, and *be responsible to Third Parties i.e., clients, consultants and the design team*. This infers that there was a small tendency for larger construction firm to consider their site managers undertaking these roles and tasks more important.

Whilst the results suggest these variables have an influence on the site managers' training needs, their low values (>0.15 significance) suggest that they are not

significant enough to influence the overall results. Therefore it was deduced that these variables does not have much significant impact on the site managers’ training needs.

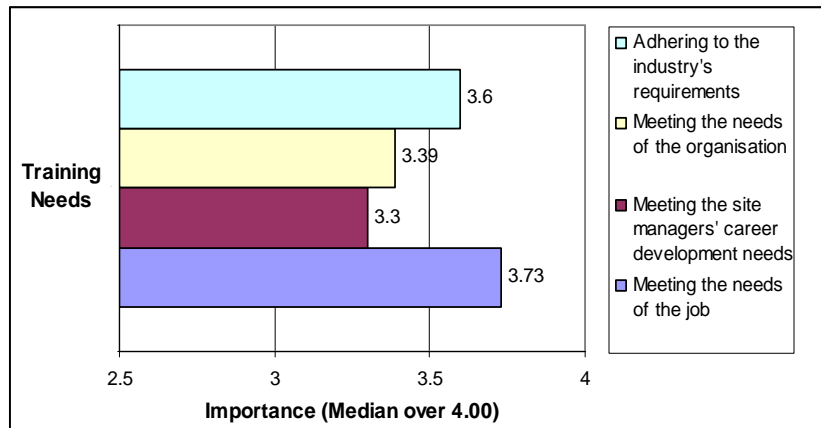
The site managers’ holistic training needs

The elements of the site managers’ holistic training needs from the literature review drawn for the research were:

- (i) meeting the site managers' job needs;
- (ii) meeting the site managers’ career development needs;
- (iii) adhering to the requirements of the industry; and;
- (iv) meeting the needs of the organisation.

Results from the analysis of median, as shown in Figure 6, found that *meeting the needs of the job* was considered the most important. This was followed closely by the importance for *adhering to the requirements of the industry*, to a lesser degree of importance *meeting the needs of the organisation*, and *meeting the site managers' career development needs*.

Figure 6: Importance of the training in meeting the needs of the site managers training



The ANOVA test carried out identified some differences in perception of the importance of the training needs between the respondent groups. To provide a better reasoned perspective on the nature of the differences between their perceptions of the groups noted, data was manipulated and analysis of frequency of responses was administered.

It emerged that (see Figures 7-10) trainers/managers from training organisations/colleges tend to consider training very important to meet all the training needs. With the exception of the importance of *training in meeting the site managers' job needs* and *adhering to the requirements of the industry* where there was a strong common agreement amongst the respondent groups, there were noticeable differences in perception between the respondent groups for the other training needs. The importance of *training in meeting the site managers' career development needs* was almost equally rated as “important” and “very important” by site managers and senior managers (employers). More site managers rated *training to fulfill the organisation's*

needs as “important” in contrast to more senior managers who deem that training to meet this need is “very important”.

Figure 7: Importance of training in meeting the site managers’ job needs

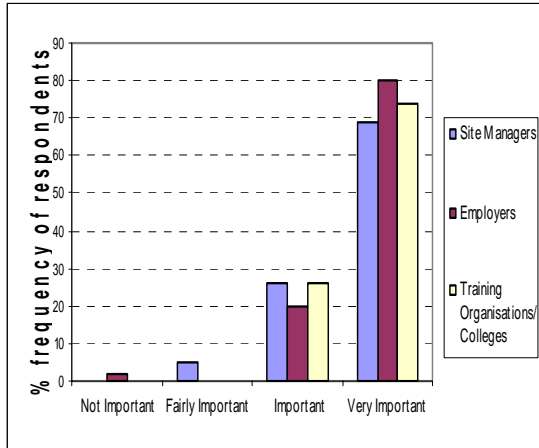


Figure 8: Importance of training in meeting site managers’ career development needs

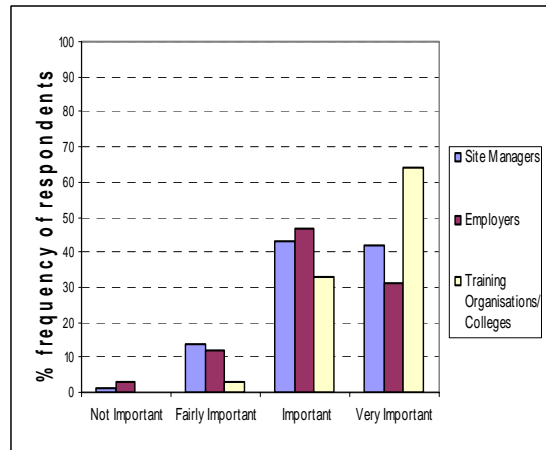


Figure 9: Importance of training in meeting the organisation’s needs

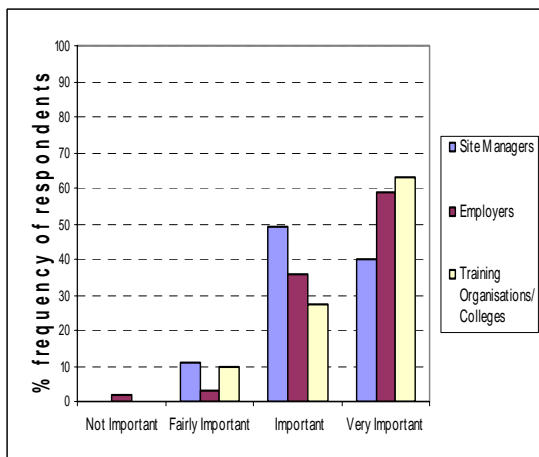
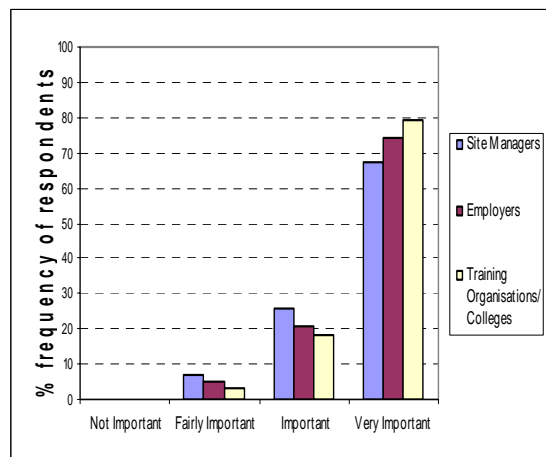


Figure 10: Importance of training in adhering to the industry’s requirements



FINDINGS EMERGENT FROM THE RESEARCH

Notwithstanding the variables of construction organisations and projects, and the site managers' background, they are generally expected to undertake a range of common site management roles and tasks within their job as identified in Figure 1. This tend to further support the view that site managers spend most of their time on traditional management functions such as planning, coordinating, monitoring, controlling, managing conflict etc., and in undertaking these activities people management skills such as communicating, motivating, training and networking are very important. This also infer that there has been little change in the structure of the site managers' job to

propound the view that any training for meeting their current job needs must be focused at these roles and tasks.

Within the context of training best practice drawn for the research, it emerged that site managers' holistic training needs was conceived to be common. Neither size of construction organisation, type of construction project, the experience of site managers nor their career progression paths have very significant impact on the importance of these needs. This tends to support the view that generic training programmes, if effectively designed can meet the site managers training needs at the industry level. In noting that there were some significant difference in the perceptions on the importance of the training needs, it was convinced that narrowing these differences might would assist to support more effective provisions for the site managers' training.

CONCLUSIONS

Whilst the research may be limited by the small numbers of respondents representing the various variables investigated to be totally reflective of the whole industry, it has provided some useful insights to augment understanding the approach to precisely determine site managers' training needs.

Understanding the roles and tasks of site managers against the context of the organisation, project setting and the site managers' background are essential for studying the provisions for their training. The research findings suggest that the appreciation of the site managers' common and holistic training needs during TNAs would be very useful to augment the whole training design. Culminating from this, the research posits that this should be the fundamental starting point for investigating the effectiveness of the training provided to site managers, particularly the CIOB C/DSM and NVQ/SVQ SS/SM training which are offered and recognised at the industry level.

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