

THE HOUSING SITE MANAGER: CHANGING ROLES AND TRAINING NEEDS

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While the way in which houses are designed and constructed has changed gradually, the site agent's responsibilities have significantly increased, due to both the voluntary adoption of quality management schemes and the compulsory adoption of legislation relating to health and safety regulations. Both have increased the workload and added additional burdens on the site agent. This paper represents a summary of a research project carried out towards the end of 1997 and the first half of 1998 to investigate the changing role of the housing site manager and their future education and training needs based on a questionnaire distributed to housing site managers throughout the UK. The objective of the questionnaire was to record site managers' perceptions of five areas applicable to their jobs, namely (1) quality management, (2) safety, (3) communication, (4) waste management, and (5) education and training requirements. Although the questionnaires were completed by individuals working on sites of different sizes and in different parts of the United Kingdom, the results appear consistent, regardless of site size or location. As such the research presented here is an important indicator for the future educational and training needs of housing site managers in the future.

Keywords: communication, education, safety, training, quality, waste management.

INTRODUCTION

The job of site agent on housing sites has traditionally been awarded to tradesmen with extensive experience of residential developments. Their promotion, to what is essentially a managerial role, was based on their familiarity with housing construction and had little to do with either their managerial qualifications or their managerial experience. Primarily responsible for the quality of the finished building, site security, site tidiness and passing information from the company's office to the workmen on site, their experience used to be more than adequate for the job. While the way in which houses are designed and built has changed gradually, the site agent's responsibilities have greatly increased, due to both the voluntary adoption of quality management schemes by housebuilding companies and the compulsory adoption of legislation relating to health and safety regulations. Both have increased the workload and added additional burdens on the site agent.

AN OVERVIEW OF PREVIOUS RESEARCH

In the summer of 1996 the authors conducted preliminary research into the changing roles and responsibilities of the site manager. We set out to record the perceptions of site managers to their responsibilities associated with the newly introduced CDM Regulations whilst at the same time investigating associated areas concerned with the effectiveness of communication, training needs and quality management systems. Interviews were conducted with twenty site managers working on small to large

residential sites in or around Leeds, Milton Keynes and Northampton. Each site agent was interviewed in their site office, using semi-structured questions designed to record their perception of the way in which their job responsibilities had been affected over the past five years. Full details are reported in Emmitt *et al.* (1996, 1997), and summarized below.

From site agent to site manager

Work patterns were found to have changed over the last five years. Site agents generally worked longer hours than they did five years before. They no longer had assistants or storekeeper's to help with the increased administration brought about by health and safety and quality issues. The biggest change reported was the amount of time that they had to spend with sub-contractors, to make them aware of their health and safety procedures, before they would allow them onto their site. This was seen by some of the sample as onerous and time consuming, others said that there were long term benefits, such as better control of the sub-contractors, especially when things went wrong or errors occurred.

The site agents said that they were experiencing greater stress levels, compared with five years ago, and felt that they were the first to blame when things went wrong. It was not surprising, therefore, when they claimed that the pressures associated with their job were greater than they ever had been. Many were quick to recount stories of site agents known to them who had suffered nervous breakdowns, believed to have been brought on by increasing pressures in a constantly changing work environment. When questioned further on this matter, some of the pressure was related to quicker build times, but the majority of the sample felt that increased demands on quality and the more stringent safety measures was the main problem - because they had been left by head office to deal with it themselves.

Quality Management

Although quality management (QM) has been proposed as an essential component of effective management, literature suggests that construction has lagged behind other industries in its adoption. Indeed a report from CIRIA (1987) suggested that the construction industry would not survive if it persisted with its traditional approaches to quality. Research into the UK construction industry has indicated that quality assurance and quality management systems do not exist on a full scale in all construction projects either at the design stage (Emmitt 1999) or on site because even in situations where the main contractor had implemented quality management the sub-contractors did not always adhere to their system (Abdul-Rahnan 1996). In our research many of the site agents were unsure what a quality management system was. None of the sites visited were operating a certified Quality Assurance system, however three of the twenty sites were operating non-certified, quality management systems. These companies had decided that the certified systems were too onerous and had designed their own quality system which they believed was less stringent than one certified by an external body.

There was a clear differentiation between those who were working to a quality management systems and those who were not. On the three developments visited where quality management systems were operating, the site agents felt that the system did save them time and helped them to be more effective at their jobs. In particular they commented on the improved effectiveness in carrying out day to day duties and procedures since the implementation of their bespoke quality management systems. These site agents on the remaining seventeen sites noted their resistance to quality

management systems, views constructed from very little knowledge about what was actually involved in such systems.

Health and Safety Legislation

In contrast to the voluntary adoption of QM, the Construction (Design and Management) Regulations 1994 came into effect from 31st March 1995, fully implemented on 1st October 1995, and are legally binding. They set out defined roles, responsibilities and tasks applicable to the main contractor and sub-contractors as well as to the client and the design team. We found that knowledge of the regulations varied among the managers interviewed. The majority of the cohort were clear in their duties under the regulations with regard to safety induction to sub-contractors and operatives on site (they viewed CDM as a natural progression of the Health and Safety at Work Act and subsequent legislation). Less were aware that sub-contractors had to produce detailed method statements to cover hazardous operations and only a few were aware of the designers responsibility in identifying and minimizing risk at the design stage.

Many felt that the implementation of safety was still an uphill battle with both sub-contractors and site operatives because few had taken the issue seriously. One remedy reported, was to insist on the sub-contractors operatives attending a safety course, organized by the house builder, but paid for by the sub-contractor. Another firm had included safety clauses in it's sub-contracts to make it clear what the responsibilities of the sub-contractors were in respect of the regulations; this was said to be a very effective measure. The sample felt that designers had not taken a fresh look at their designs as a result of the CDM regulations because they had not seen any changes. Perhaps the site agent was simply not aware of any changes that had been made. Half of the site agents interviewed had received some formal training, in the form of seminars held at their company's offices. The majority of the site agents were concerned about the time taken to fill in the associated paperwork and viewed it as a "buck passing exercise." They felt that the form filling took valuable time which could have been spent on other tasks, hence short cuts were taken in the majority of cases.

Communication

Effective communication is seen as an essential element, both in the management and delivery of design quality. However some authors (e.g. Ashworth 1989) have questioned the effectiveness of quality management systems when there is still a lack of integration between designer and builder. Studies carried out by Gaarslev (1996) has shown that a move from traditional fragmented relationships to greater participation and co-operation were difficult to implement initially, but once established proved worthwhile.

Interaction between designer and site agent varied. Four of the sample said that they did not communicate with designers, mainly because they were not allowed to make changes to the design or specification of the houses during construction. One of the site agents only met with the designer (architect) once a year whilst a second met with the designer twice a year. The remaining fourteen said that they had noted an increase in the frequency of communication, or feedback, with designers which they said had helped in a better appreciation of each others difficulties as and when they arose. There was a difference between company size, the larger the company the less contact between designer and site agent. Over half of the sample said that interaction between site and designer could, and should, be improved to facilitate an exchange of ideas.

Table 1: Number of units per site

Number of units	Percentage
1–10	11
11–50	46
51–100	30
101–150	8
151–200	4
210–250	0.5
251 +	0.5

Environmental issues

Although we did not set out to investigate issues concerned with site waste all three authors were both surprised and appalled at the level of waste and the apparent lack of concern about environmental issues amongst the site managers visited. This led to a separate study (Emmitt and Gorse 1998) which found that the control of waste on site was clearly down to the motivation of the individual site manager. It was an area in which more information was required and which could be addressed in the next research programme.

Education and training

The importance of both education and training in effective management skills and systems has been stressed by a number of authors. Continuing Professional Development (CPD) has been advocated as a method of updating skills within the industry, indeed it has been suggested that successful managers will be those who are concerned with, and active in, their own professional development (Watson 1997). In the 1996 research we did not set out to record the site managers' training needs, although it was apparent from our interviews that this needed to be addressed in future research.

RESEARCH

Following our 1996 research one of the original authors (SRJ) took up an appointment as training manager with the National Housebuilding Council where his interest in the areas discussed above could be addressed through training programmes. The opportunity to continue with our research was taken with a collaborative research project designed and implemented by the National Housebuilding Council and Leeds Metropolitan University.

In many respects the first research had been a pilot study for a larger programme of research. We were concerned that our initial findings may not have been representative of the UK as a whole and wanted to record the views of site agents around the country. In response to the first phase of the research we designed a questionnaire that could be distributed at training events organized by the NHBC and conducted during 1998. In the event we collected 180 fully completed questionnaires that provided both qualitative and quantitative data, summarized below.

The site managers who responded to the questionnaire were responsible for sites in a wide size band, shown in Table 1, with the majority (57%) on sites of 11 to 100 units.

Quality Management

When questioned about quality assurance and quality control we received some interesting answers. 43% of respondents were working to internally managed quality

management schemes, 11% were unsure as to whether they were or were not. Quality control schemes were more widespread with 71% claiming to use them and 72% indicating that they had had some form of training in quality management of which 57% had been trained in-house. Despite recording some relatively negative comments about quality assurance, 80% of the sample claimed that quality assurance schemes had affected the quality of the finished building in a positive manner. But 70% claimed that these managerial schemes had either hindered or compromised communication supported by qualitative answers such as 'additional paperwork hinders duties', 'too much paperwork' and 'compromised communication' This observation was reinforced by answers to a question about the opportunity for feedback since only 15% said that the opportunity existed, an observation contrary to the philosophy of quality management.

It is clear from the comments recorded by the respondents that quality management is perceived as a positive benefit but that it is not liked because of the additional paperwork associated with the management schemes. Furthermore, the quality management schemes do not appear to be working from the perspective of the site manager since the opportunity for feedback was very limited and the comments recorded indicated that this was causing a degree of resentment with many of the sample. This appears to indicate that the quality management schemes were not being managed effectively.

Safety

Respondents were asked to record their safety qualifications. A wide range of qualifications were recorded which ranged from first aid certificates to scaffolding and general health and safety awareness. The whole sample confirmed that their company had a documented safety system and 92% of respondents claimed to have undergone safety training (although this did not correlate to the qualifications listed above, perhaps because they had not received a formal qualification for attending the event) with 27% attending one training session in the previous twelve months, 28% attending two and 27% claiming to have attended eight. The remainder recorded three, to seven sessions.

When asked 'What effect has the CDM regulations had on safety?' 88% noted improvements, 11% no effect and 1% believed the regulations had made safety worse

When asked about the extent of their understanding of the CDM Regulations only 10% claimed a full understanding with just over 60% claiming a reasonable understanding. The lack of understanding was further reinforced in the comments recorded, with many noting that they needed further training in this area. We also found difficulties with the design team and the sub-contractors. The site managers felt that the design team could do more to implement CDM and make the site operative's job easier with comments such as 'the design team seem oblivious to CDM regulations'. There were observations about the difficulty of training sub-contractors who appeared to want to disregard the CDM regulations. Respondents also noted that the regulations needed to be simpler for all to understand, it needed support from senior management if it was to work and its implementation on site had more to do with the dedication of the site manager than the regulations, summed up by comments such as 'hard to control on site' to 'take a manager off a site for 1 – 2 days and there is no one to manage it (CDM) – I wouldn't leave a bank open all day with no staff, would you?'

Table 2: Would you benefit from education or training in any of these areas?

Area	Yes	No	Undecided
Quality management	67	18	15
Safety	70	19	11
Communication	50	28	22
Environmental control	69	10	21
Construction technology	70	14	16
Management of people	54	26	20
Leading to recognized award	67	12	21

Communication

The comments received in answer to questions about quality management and health and safety were in many cases about communication, or rather the lack of effective communication. The findings reported above were further reinforced by the answers to questions about communication between site manager and immediate manager and also between site manager and the design team.

We asked how often the site managers communicated with your immediate manager. 47% claimed to do so on a regular (almost daily) basis, 47% a few times a week, and 6% a few times a month. When asked if communications could be improved the answers ranged from requests for more (regular) site visits to requests for prompter answers to their questions.

Communication with the design team was regarded as more difficult. 33% communicated with the design team weekly, 35% a few times a month, 21% hardly ever and 1% never. These figures were reinforced by a large number of comments, nearly all of the respondents had something to say on this topic. The majority of the comments were complaints about the designers inability to respond quickly enough to suit the site manager, wanting a response the same day as their question, not 'weeks later'. There was a clear need on behalf of the site agents for clearer information and more of it. Other comments noted the lack of understanding of site operations by the design team with many site managers claiming it was difficult to 'get any sense out of them' which it was suggested could be improved by the designer visiting the site more often.

Environmental issues

We focused our attentions on skip waste in an attempt to get an indication of the level of awareness and action with regard to the control of waste on site. 61% of respondents claimed to have some formal control mechanism in place to reduce the volume of skip waste and the majority of these were able to provide a cost per skip for their waste. Few of the 39% who did not control their waste were able to give a price per skip, either because they did not deal with financial matters or simply because they were not concerned about it. Only 27% of the sample claimed to segregate waste into biodegradable and non-biodegradable skip waste, and there was a strong correlation between separation and awareness of the different cost. The majority of those who did segregate their waste exhibited knowledge of the different cost of the different types of waste and noted much higher charges than those who did not segregate. It would appear that cost is a strong motivating factor when it comes to controlling waste on site.

Education and training

We asked respondents if they felt they would benefit from additional education and training in a number of areas, indicated in Table 2, and whether they wished such training to lead to a recognized award.

Respondents were clear in their need for further education and training in areas associated with quality management, safety, environmental issues and (surprising to us) construction technology, with the yes responses around the 70% mark. They felt less of a need for further training in the areas of communication and the management of people. Areas identified by respondents in their qualitative answers ranged from CDM regulations and information technology to NHBC controls and regulations. Many said that their company was an excellent provider of education (in-house) while others claimed that 'any' training would be beneficial since the company they worked for did not provide any. There was a large discrepancy in training provision between those who worked for a large company and those employed by the smaller firms.

There was a clear desire to see such training and educational provision leading to a recognized award, with some respondents seeing the NHBC as one such provider.

CONCLUSION

The role of the site agent has changed, from one of site guardian to that of professional manager. The initial investigation (1996) and the findings of the latest research (1998) identified that the site agent requires education and training in order to fulfil their professional role. It is interesting that professionals largely from trade backgrounds recognize the importance of education and training showing a clear desire to improve their knowledge and skills. The strength of this study is the feedback provided from the 'coal face'; identifying where the site managers recognize their own weaknesses and strengths. The NHBC were able to respond to the preliminary assessment of the data providing education and training programmes, leading to recognized awards, in the areas considered most needed by the site agents. The early success of the NHBC programmes has led to continued research enabling a dynamic link providing a real opportunity for education to respond to industry.

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