

# CONSTRUCTION INDUSTRY PROBLEMS: THE VIEWS OF UK CONSTRUCTION DIRECTORS

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Following a detailed literature review, eighteen prevalent problems facing the UK construction industry are identified. The severity of these problems as opined by experienced UK construction company directors, obtained through a questionnaire survey, are subsequently presented. Findings reveal that the two severest issues are considered to be the poor image and reputation of the industry, allied with a preponderance of 'cowboy builders'. Design changes are ranked third, followed by late payments, time restraints and reliance on competitive tendering procedures. In response to these views it is recommended that the industry's priority should be towards abolishing unscrupulous firms in the domestic repair, maintenance and improvement sector, thus leading towards the development of a more professional image. This should be combined with an attempt by all construction participants to eradicate the existing adversarial nature of the industry. A long-term strategic plan is needed if such generic industry-wide problems are to be addressed effectively in the new millennium.

Keywords: competitive tendering, image, strategic plan, contractors; cowboy builders; problem identification.

## INTRODUCTION

The UK construction industry is plagued with some severe problems, including its low profitability, a shortage of skilled workers and a lack of investment in research and development. Additionally, many of the industry's clients are dissatisfied with the level of service provided and with the quality of the end product (i.e. the constructed building). These problems can be traced back to a number of possible causes, including the labour intensive nature of the process (Agapiou *et al.*, 1995), and apparent difficulty that the industry has in adopting new technologies in particular, information technology (IT) (O'Brien and Al-Soufi, 1994). Additionally, the fragmented structure of the industry lends further weight to such problems (Chau and Lai, 1994). More recently greater awareness of the practices of 'cowboy builders' (DETR, 1998) and the effect of increased television exposure (Cavill, 1998) has compounded the situation.

Several reports have been published aiming to dramatically improve the efficiency and quality of the industry, to reinforce the impetus for change and to make the industry more responsive to customer needs (e.g. Banwell, 1964; Latham, 1994; and Egan, 1998). Unfortunately, to-date these ideals have not been totally satisfied. The aim of this paper is twofold. Firstly, to identify (via literature review) the most important problems currently facing the industry, and then second to appraise the severity of these problems through survey of UK construction company directors.

## CONSTRUCTION INDUSTRY PROBLEMS

Table 1 presents a list of the most frequently cited problems of the construction industry identified from the literature. These problems are well known and for the purposes of brevity are grouped under nine generic headings in the following discussion.

**Table 1:** Construction Industry Problems

Number	Construction Industry Problems	Current level of severity				
		Very low	Low	Quite severe	Severe	Highly severe
		1	2	3	4	5
1.	Cowboy builders	1	2	3	4	5
2.	Poor image / reputation	1	2	3	4	5
3.	Competitive tendering procedures	1	2	3	4	5
4.	Over-specification (i.e. over designed)	1	2	3	4	5
5.	Reliance on traditional procurement	1	2	3	4	5
6.	Late payment	1	2	3	4	5
7.	Cost overruns	1	2	3	4	5
8.	Late completion	1	2	3	4	5
9.	Changes of design during construction	1	2	3	4	5
10.	Time constraints and/or accelerated completion	1	2	3	4	5
11.	Low productivity	1	2	3	4	5
12.	Absenteeism of labour	1	2	3	4	5
13.	Excessive overtime	1	2	3	4	5
14.	Low plant utilisation	1	2	3	4	5
15.	Wastage	1	2	3	4	5
16.	Inexperienced management and supervision	1	2	3	4	5
17.	Fragmentation	1	2	3	4	5
18.	Poor quality / workmanship	1	2	3	4	5

### Public perception

The UK construction industry is generally perceived as being inefficient, unproductive and low in quality. In recent times, the term 'cowboy builder' has become synonymous with the industry. The Department of Environment, Transport and the Regions (DETR, 1998a) defined the 'cowboy builder' as being incompetent, dishonest and a tax evader and have launched a scheme, *'The Quality Mark'* initiative, in an attempt to address the problems caused by such firms. Increased media coverage has only compounded the problem and led to a deterioration in public confidence in regard to the industry's level of service, which can only damage the sustainability of construction firms. While there has been much rhetoric on the subject in the construction press (see for example, Porter, 1997; King, 1998a and 1998b; and Donovan, 1998), and despite publication of Government guidelines on how to combat the unscrupulous builder problem (DETR, 1998), it remains an on-going, unsolved issue.

### Tendering problems

The 'standard' method of competitive tendering has many limitations and weaknesses, including for example:

- It precludes the reciprocal exchange of technical knowledge and information;
- It tends to create an atmosphere of hard bargaining, which is not conducive to the development of good relations;

- It provides the least opportunity for integration of the construction team because it prevents the contractor from becoming involved at the design stage;
- Tender periods are often very short compared to the design or construction stages which puts bidders under pressure to meet deadlines often resulting in errors in costing and high levels of risk.
- The tendering process is itself expensive, with eighty per cent or more of the companies bidding being unsuccessful and then having to absorb these costs or pass them on to the next client.

These problems have been manifest for some time and can be tracked in Governmental Reports by Banwell (1964), Latham (1994) and more recently Egan (1998). Despite guidance from the government that lowest price should not determine the choice of contractor, the vast majority of work is still won on this basis, particularly in the public sector.

### **Procurement problems**

The procurement of construction work has predominantly followed the traditional approach. In this approach, the client engages separate organisations for the three key services of design, measurement and cost advice, and construction. The problems of traditional procurement can be summarised as follows:

- The need for the design to be fully developed before tenders are prepared leads to longer overall project duration, thus increasing project cost as the duration of the project increases.
- The ability to organise and control the work of nominated subcontractors is undermined by the nomination process, because such subcontractors usually have less loyalty to the contractor (or client) than to the architect who nominated them.
- The separation of design and construction tends to foster a 'them and us' attitude between designers and contractors thus reducing team spirit that is vital for project success.
- The traditional system has proved to be unsatisfactory for some large and complex projects, which require advanced management systems, structures and skills.
- The sequential nature of this system often results in lengthy design and construction periods, poor communication between clients and the project team (especially contractors), and problems of buildability.
- The facility of the traditional route to respond to late demands for change has been identified as one of the main causes of delay and increased cost.

Owing to these problems, alternative procurement strategies (such as Design and Build and partnering) have, and continue to evolve. However, there are no panacea - many of the alternatives have their particular 'problems'.

### **Design problems**

Over-specification has been a problem for UK contractors for years, but the problem tends to become more acute at times of economic boom (Atkinson, 1995a). Reducing specification levels is not about cutting corners, but about cutting out waste and unnecessary cost (*ibid.*). It has been suggested, that over-specification adds approximately fifteen per cent to the cost of construction work (D'Arcy, 1995a). Atkinson (1995a) reported that many offices are designed to cope with sixty per cent

more staff than actually occupy the building. In addition, buildings have been found to have an unnecessary number of lifts, toilets and escape routes for the number of people in occupation; as well as the over-specification of lighting, small power and heating and ventilating systems. A comparative study between UK and US building costs in 1993 (Atkinson, 1995b), found that lower specification, more prefabrication, and greater reliance on standard components could lead to spectacular savings in the cost of construction.

### **Financial problems**

Financial aspects, such as project cost control are, as in other industries, crucial in the construction industry. These aspects include late or delayed payments (by clients contractors and /or subcontractors), cost overruns and design changes.

#### *Late Payment*

Late payment (e.g. of contractors, subcontractors and suppliers) is more of a problem in the UK than any other European country (Leitch, 1994). Leather and Rolfe (1997) investigated the late payment problem, and proffered that it would be difficult to be rid of this culture without the introduction of legislation. In order to deal with this problem, a host of solutions have been voiced, ranging from the setting up of trust accounts to the introduction of interest on payments overdue (Latham, 1994; Guerrara, 1997; and Barrie, 1997).

#### *Cost Overruns and Design Changes*

As in other countries, the UK construction industry is characterised by project cost overruns (Jahren and Ashe, 1990). Design changes have been found to significantly correlate with cost overruns (Barrie, 1998). Similarly, design changes have been found to be the most significant source of construction wastage (Faniran and Caban, 1998). A 'firm' design brief along with timely communication of any necessary variations to all parties concerned is one way to combat the problem.

### **Human-resource problems**

Egan (1998) considered the workforce to be the most valuable commodity and described training to be in a state of *crisis*. However, the cyclical demands of the industry make it difficult to keep workers employed on a continuous basis. Other problems include absenteeism of labour, time restraints of the project and a need for excessive operative overtime payments.

#### *Absenteeism of Labour*

Absenteeism can create enormous problems for the construction industry, seriously affecting planning by reducing the effectiveness of teamwork and output, and by causing plant and machinery to stand idle (Burch, 1992; Lim and Alum, 1995). The Business Round Table (1982) reported that each one per cent increase in absenteeism causes an increase in labour cost of 1.5 per cent. Hence, reducing absenteeism can lead to reduced labour cost. Furthermore, D'Arcy (1995b) noted that absenteeism accounts for a loss of 5 - 15 per cent of available work-time on site.

#### *Time Constraints and Excessive Overtime*

Contractors are often involved in tight schedules to complete phases of work or entire projects, resulting in a need to accelerate construction programmes and increase working hours. Excessive overtime has been found to be counter-productive (Thomas, 1992; Proverbs et al, 1999). Work schedules that extend beyond 40 hours per week reduce labour productivity and create excessive inflation of labour costs, without material benefit to the completion schedule (Business Round Table, 1991). Therefore,

the use of overtime to combat time restraints increases construction costs and inhibits long-term improvements in performance.

### **Productivity problems**

According to Gray and Flanagan (1989), the average construction worker is only productive for 40 per cent of the time, the remaining 60 per cent is spent moving from one task to another or waiting for materials and/or instruction. A recent international study, found that UK contractors were significantly less productive than their French and German counterparts (Proverbs, 1998). Productivity can be impaired by numerous factors including: poor management and supervision; disruptions to work; inclement weather conditions; low and discontinuous demand; frequent changes in specification; inefficient construction methods; and over-manning.

The fragmented structure of the industry also contributes towards the productivity conundrum (Cox and Townsend, 1997). Egan (1998) reported how within this structure, each party involved has become less trusting, more self-interested and adversarial. Effectively, risks are passed down to the next layer in the supply chain in order to minimise exposure. As a result, there are many interfaces and possible conflicts that ultimately lead to increased cost, and reduced efficiency and productivity.

### **Material problems**

Materials constitute a significant proportion of the cost of construction. Many studies have drawn attention to the excessive waste of materials on site (see for example Illingworth, 1987; Skoyles, 1992; Proverbs et al, 1995). Recently it was reported that at least ten per cent of all raw materials delivered are wasted through loss, damage and over-ordering (CIRIA, 1999).

### **Technological problems**

Traditionally, due to its labour-intensive nature, the use of plant and machinery in the construction industry has been less than that used in manufacturing. Nevertheless, there has been an underlying trend towards a greater use of equipment in construction. The scale of modern construction work and the demand for shorter construction times, make the extensive (efficient) use of equipment essential. Equipment down-time needs to be minimised to ensure that the return on its investment is achieved.

However, the amount of time that plant is unused can be as much as 90 per cent. This low plant utilisation places a capital burden on the contractor, and it is commonplace in the construction industry. Plant utilisation can not be ignored if contractors are to reduce construction costs (Kingston, 1995).

## **THE SURVEY**

The research survey targeted the Managing Directors of 100 UK contractors listed in the CIOB Directory Handbook (1998), who had attained Quality Assurance accreditation. Of these, 49 completed questionnaires were returned, representing a healthy response rate of 49 per cent.

The questionnaire first required the respondent to indicate their personal details (e.g. age and experience) and company characteristics (e.g. type of work performed, size of company). Respondents were then asked to indicate their assessment of the severity of the problems by circling the appropriate response on a likert scale of 1 to 5, representing very low to extremely high levels of severity (refer to Table 1).

### Characteristics of the respondent sample

Over 80 per cent of respondents had in excess of 20 years construction experience, with over 70 per cent directing construction firms that had been in business for over 20 years. The size of firms represented (in terms of annual turnover) varied with 39, 37 and 24 per cent representing small (less than £5 million), medium (£5 million to £50 million) and large (more than £50 million) companies respectively. Hence the views expressed can be considered those of highly experienced Managing Directors, working for mature companies of varying size, throughout the UK.

## PERCEIVED SEVERITY OF PROBLEMS

In order to represent the overall views of the construction company directors, a mean level of importance was calculated for each problem, based on the scores allocated by the respondent sample. Tables 2 presents the descriptive statistics (mean, standard deviation and rank) of the severity of construction industry problems as considered by the survey respondents.

**Table 2:** Severity of Construction Industry Problems

No.	Problem	Mean	Standard Deviation	Rank
2.	Poor image / reputation	3.88	0.83	1
1.	Cowboy builders	3.73	1.15	2
9.	Changes of design during construction	3.39	0.93	3
6.	Late payment	3.35	1.30	4
10.	Time constraints and/or accelerated completion	3.27	0.91	5
3.	Competitive tendering procedures	3.22	1.03	6
7.	Cost overruns	3.16	0.94	7
17.	Fragmentation	3.02	0.92	8
8.	Late completion	2.98	1.05	9
15.	Wastage	2.94	1.09	10
5.	Reliance on the traditional procurement route	2.69	1.06	11
11.	Low productivity	2.69	0.98	12
4.	Over-specification (i.e. over designed)	2.65	1.07	13
16.	Inexperienced management and supervision	2.59	0.84	14
18.	Poor quality / workmanship	2.57	0.76	15
13.	Excessive overtime	2.08	0.95	16
12.	Absenteeism of labour	2.08	0.84	17
14.	Low plant utilisation	2.06	0.72	18

The two most severe problems were considered to be poor reputation and the proliferation of cowboy builders, ranked first and second, respectively. In designing a strategy for construction industry improvement, these issues should clearly be prioritised. It is reasonable to infer that these problems are interrelated, since abolishing cowboy builders would no doubt contribute toward improving the industry's image. The Government led initiative to combat cowboy builders demands the support of construction companies if it is to be successful. All reputable small domestic builders should be encouraged to register on the Quality Mark Scheme. The industry must also play its part in disseminating information about the scheme and demonstrating the benefits of registering to such firms, which must be supported by a concurrent campaign to raise public awareness of the scheme. A long-term plan is required if the scheme is to be effective in combating the problem.

Notably ranked higher than other more commercial influences including late payment, time restraints and cost overruns, are design changes ranked in third place (mean severity of 3.39). The severity of this problem suggests that adversarialism is still deep rooted in the industry, because contractors perceive such problems more

important than cost! Two directors also indicated problems of '*poor design*' and '*late and incomplete design information*' to be severe problems. Clearly, a partnering culture remains to be instilled and the long-term relationships advocated by Egan are yet to be nurtured.

Late payments (ranked fourth) have been the cause of many construction company insolvency's, particularly in times of recession. Often this financial burden is passed down the supply chain to subcontractors and suppliers, compounding the situation even further. The introduction of legislation to address such practice, is just one solution that might be considered.

The pressure to complete projects quickly (time constraints and /or accelerated completion) and competitive tendering procedures are ranked fifth and sixth respectively. While the demand to deliver projects in the shortest possible time is unlikely to change, the development of corporate strategic alliances in the new millennium could see an end to, or certainly help significantly reduce the use of competitive tendering. The savings which would arise for contractors were such developments to happen, could be passed on to clients and/or improve profit margins, thus benefiting the industry, in particular by increasing workload and engendering financial stability. As has been stated many times before, attempts to encourage other procurement routes should be part of any performance improvement strategy.

It is interesting to note that many of the problems in the lower half of the rankings are those which fall under the responsibility of contractors (i.e. inexperienced management, poor workmanship, excessive overtime and low plant utilisation), while those in the upper half are more generic. Contractors consider problems which are generally beyond their control, as more severe. Indeed, these industry-wide problems represent the most challenging aspects for the industry to overcome in the new millennium.

## **SUMMARY**

From a literature review eighteen predominant problems currently facing the construction industry were identified. The opinions of construction company directors concerning the severity of these problems was obtained through a questionnaire survey. The underlying aim of ranking these problems being towards developing a strategy for improving the performance of the construction sector and improving client satisfaction. Findings reveal that the poor image and reputation of the industry, allied with the practices of cowboy builders, represent the two major challenges to be overcome. A long term plan to eradicate such problems is advocated, necessitating the support of the Government, the industry and the general public. The high ranking of design problems suggests that the relationship between contractors and architects remains somewhat adversarial in nature and, that current reliance on 'traditional' procurement be replaced by more modern alternatives such as partnering and corporate strategic alliances. Most of the high ranking problems are generic and industry-wide, requiring a strategic plan involving all participants if they are to be addressed effectively in the new millennium.

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