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Improving the management of claims on construction contracts: consultant's perspective

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There is tremendous scope for improving claims management practice. This research comprised a postal questionnaire survey of contractors, project owners' architects, quantity surveyors and engineers, case studies on actual claims situations on projects, and structured interviews with consultants and contractors. Although based mainly on consultants' views although contractors' views are brought in occasionally for corroboration and clarification. The main findings are that: (i) claims management is still performed in an *ad hoc* manner; (ii) contractors' management information systems are ill designed to support claims; (iii) the products of basic good management practice, such as diaries, timesheets, and programmes, often are inadequate in content even if available; and (iv) some aspects of claims are impossible to quantify with precision even with the best information available at reasonable cost. Main remedial measures suggested include: (a) greater emphasis on the quality of claims management practice and information systems during evaluation of tenders; (b) agreeing figures usually in contention as terms of contracts; (c) implementation of electronic document management systems; and (d) stricter contractual provisions on the quality of programmes, timesheets and content of claims.

Keywords: Claims management, contract, contractor, disputes, project

Introduction

Construction contract claims have been a problem in the UK construction industry for decades. The Wood Report (1975), commissioned by the UK government, described claims and variations on construction projects as "the most vexatious areas of contractual relationships". Scott (1992), over a decade and a half later, contends that the use of the word claim still arouses emotions very often accompanied by acrimonious accusations. These emotions are contrary to the acceptance in many circles that claims are a natural and inevitable consequence of modern contractual arrangements (Bradley and Langford, 1987). This reality is in fact recognized in the drafting of most standard forms through the inclusion of express provisions. Typical examples are clause 26 of the Joint Contracts Tribunal's Standard Form of Building Contract, 1980 Edn JCT 80 (JCT, 1980) and clause 52 of the Institute of Civil Engineers' Conditions of Contract, 6th Edn (ICE, 1991). Literature on the subject of claims suggest that the problem exists in virtually the same form in most western countries, particularly the USA (Barrie and Paulson 1992) and Canada (Jergeas and Hartman, 1994).

Reported research and expert commentaries aimed at finding solutions to the problem have followed one or both of two approaches: 'starting right' and 'staying right', to use the parlance of the US Construction Industry Institute (CII) committee on dispute management (Diekmann and Girard, 1995).

The first approach focuses on ensuring adequate understanding of the terms of contract through the explanation of the principles governing their construction (Trickey, 1983; Powell-Smith and Sims, 1989) and analyses of judicial decisions concerning the use

of certain words, phrases or entire clauses in standard forms (Thomas *et al*, 1994). Examples are whether the term 'costs' as used in the ICE 6th Edn includes overheads or not and the meaning of 'loss and/or expense' under the JCT family of contracts. These commentaries also advocate the use of clear contractual language to start with, while proposing amendments to problem clauses. The overall object of this approach has been to: (i) get the contractual language right first time in new contracts; (ii) increase awareness of the likely construction put upon common terms by the courts and arbitrators; (iii) encourage the amendment of some of the standard terms of contract; and (iv) expose popular misunderstandings.

The second approach aims to ensure equity in risk allocation in construction contracts. The goal is the use of the right strategy regarding risk allocation and to expose inequitable risk allocation (Bosche, 1978; Levitt *et al.*, 1980; Ward *et al.*, 1991). The exponents of this latter approach argue that equity in risk allocation is the key to the reduction of disputes. This was the primary rationale for the drafting of a new contract form by Hartman (1990), the introduction of the Engineering and Construction Contract (Institute of Civil Engineers, 1990), in the United Kingdom and the recent recommendation, after a review of the state of the UK construction industry, that most of the standard forms of contract used in the United Kingdom should be redrafted (Latham, 1994).

Despite these efforts, claims have continued to be a problem. Other research and expert commentaries suggest that claims management and 'people' issues may be, at least, as important as having a clear understanding of contractual terms and equitable risk allocation. For example, Diekmann and Girard (1995) reported, after studies of completed projects in the USA, that people and management issues may be more influential on the incidence of disputes than risk allocation.

Brewer (1993) explains that the management problem concerns the ability of parties to identify, on a regular basis, the claimant's entitlement, with adequate documentation to ensure payment through the interim payment mechanism. The importance of this type of management is supported by a survey of arbitrators reported by Kangari (1995) which found that proper project activity documentation influences dispute resolution. The Wood Report (1975) earlier made this very point when it emphasized that lack of factual evidence is a prime cause of delayed payment and, inevitably, protracted disputes.

This lack of appreciation of the management issues has led some commentators on the subject of claims to label claims management as a form of black art. Zack (1993), for example, deprecated 'claimsmanship' which he described as "the practice of making and winning claims by questionable expedients without actually violating the rules".

Most of the available literature, by way of definition of remedial measures, does not go beyond general exhortations to contractors to maintain adequate information to support claims. There has been no reported research aimed at auditing current claims management practices in terms of precise deficiencies, their respective severity and specific remedial measures. The broad aim of the writers' research, part of which is reported in this paper, is to attempt to redress this shortcoming. This paper examines critically owner's consultants opinions on the problems with contractors' claims. Contractors' views are discussed but only for purposes of corroboration and clarification of issues raised by consultants.

Research methodology

The literature on claims and disputes was reviewed and a detailed analysis made of case law to identify common themes. Particular attention was focused on matters relating to acceptable evidence, presentation requirements and claim quantification.

Based on this review and an initial consultation with industry, a questionnaire survey was designed to identify shortcomings in the claims management process from the viewpoint of owners' consulting engineers, quantity surveyors, architects and civil/structural engineers. The focus was on four main aspects of claims management: (i) the main reasons for the rejection of all, or part, of contractors' claims; (ii) responsibility for evaluating them; (iii) identification of deficiencies in their documentation; and (iv) aspects of quantification of claims which are likely to result in disputes. A copy of the questionnaire is available from the first author.

The Response

Two hundred questionnaires were sent to individuals from three main categories of construction consultant: architects, civil engineers and quantity surveyors. Analysis of the questionnaires returned showed that 19.1% of the architects, 30.9% of the civil/structural engineers and 40.1% of the quantity surveyors responded, an overall response rate of about 27%. Table 1 shows a summary of the response.

The postal survey was followed by interviews with 10 contracting and consulting firms and case studies of claims on 5 projects aimed at clarifying some of the issues raised by the results of the survey. The findings

Table 1 Category of responding consultants

Type of consultant	% of respondents
Architects	19.1
Civil engineers	30.9
Quantity surveyors	40.1
Multi-disciplinary	9.9

reported in this paper therefore are based on a combination of the statistical analysis of responses to the questionnaire, interviews with some of the respondents, and the case studies of actual claim situations.

Method of analysis

The choice of statistical test is one of the most important tasks any research survey has to address. The option selected must reflect the problem area being investigated and the answers the researcher is looking for in the study.

The subject of claims management and the issues this research aims to unravel are undoubtedly based on the experience of construction professionals. Opinions on such a controversial topic are likely to be subjective in some respects. An objective analysis should, of necessity, measure the significance of the answers in as broad a perspective as possible. Definitive assumptions about the population parameters would therefore flaw the research conclusions fundamentally. Consequently, it was decided to use non-parametric statistics which are distribution free, can deal directly with scores and remain valid even when the normality assumptions are violated.

A number of such tests meet these criteria (Meddis, 1984). The Kendall concordance test (Kendall, 1970) was used in analysing the postal survey. Readers interested in the theory and application of this statistical test may consult the excellent explanation by Siegel and Castellan (1988). This paper is intended to be read in a practitioner's context, and therefore the statistical analysis included here has been kept to a minimum.

Discussion of findings

Responsibility for evaluating claims

The expertise, skills and workload of the person responsible for evaluating a claim submitted by a contractor must be a major contributory factor in its satisfactory negotiation and settlement. Any meaningful review of the claim management process therefore must include a critical examination of the performance of this function. To this end the consultants were asked to score the usual involvement of the various members of a project team. An analysis of their responses, summarized in Table 2, suggests that the project quantity surveyor (PQS) has a greater degree of involvement in the evaluation of claims than the owner's architect/engineer (A/E).

Most UK standard forms of contract allocate this responsibility to the A/E. The implication of this finding is that actual performance of the function is delegated to quantity surveyors. Some standard forms, especially those designed for building contracts, expressly authorize some delegation. However, the Institute of Civil Engineers (ICE) sixth condition (ICE, 1991) are silent on delegation in this area of contract administration. The case studies and interviews indicated that many civil engineering firms either sub-contract this function to independent quantity surveying firms with experience of civil engineering work or have in their employment personnel with expertise in civil engineering and quantity surveying.

Some questionnaires were returned uncompleted from architects. Their stated explanation was that, as they normally pass claims on to project quantity surveyors for evaluation, they could not contribute meaningfully to the research. There is something to be said for such delegation because the PQS has no conflict of interest when assessing the impact of any contributory defaults of the architect. However, there is a need for concern for two reasons. First, it is doubtful whether the standard forms of contract concerned allow for that degree of delegation. Second, if the reason is lack of relevant expertise, as it appeared from the comments, one wonders whether such deficiency might not manifest itself as avoidable grounds for claims and lack of vigilance at crucial times on matters most likely to be exploited subsequently by the contractor.

The low score for owners was not unexpected. The general understanding is that, in performing the claims

Table 2 Level of involvement of project team members in claims evaluation

Project team member	Mean rank	Rank order
Project architect/engineer	3.60	2
Project quantity surveyor	3.68	1
Project manager	2.97	3
Client	1.95	5
Others involved	2.81	4
W	Significance	
0.22	0.00	

evaluation function, the A/E acts as an independent expert holding the balance evenly between the contractor and the owner. However, according to a number of interviewees, this tradition is being departed from in two types of situation.

First, owners, such as the Department of Transport and the Ministry of Defence, insist that claims are submitted and evaluated to the letter of the contract. Such organizations demand a full audit of claims before authorizing payment. Some consultants said that they therefore treat claims on public projects with special caution. The effect of this type of attitude often results in longer delays of final accounts than experienced in private sector projects. Apparently, some very well organized contractors are aware of this difference and will usually have in place more methodical claims management procedures on public projects.

Second, some contractors interviewed in a parallel survey said that their overwhelming experience has been that very early access by the contractor to a person in the owners organization with authority to settle claims, especially a private sector owner, often will reduce considerably any controversy surrounding troublesome claims. Indeed, a recent report of the European Construction Institute (ECI, 1992) recommends earlier and greater owner involvement in claims management. A possible rationalization of this departure from tradition is that, in some cases, the owner's A/E, who may have been the cause of the events giving rise to the claim, would require detachment on a superhuman scale to be impartial.

With claims allowed by the A/E, the traditional attitude of owners has been to take it all on the chin with recriminations sometimes of an unhealthy 'claims attitude' on the part of contractors. The contribution of the consultants was rarely ever questioned. However, this attitude is changing. Recent cases brought before English courts should send a chill down many an A/E's spine. In *Wessex Regional Health Authority* v *H.L.M. Design Ltd* (1994) 71 BLR 32 architects were found liable to the owner for claims won by a contractor. In *Mid-Glamorgan County Council* v *Devonald Williams and Partners* (1991) 29 ConLR 84 the owner brought proceedings against its architects alleging failure to supply information on time, among other complaints. In *Wharf Properties Ltd* v *Eric Cumine Associates No. 2* (1991) 52 BLR 1, a Hong Kong case which was appealed to the Privy Council (the highest appeal court for British colonies that have retained its jurisdiction) in the UK, the owner reached a compromise on claims with contractors and then sought to recover his liability from the architects on grounds of their having issued unnecessary and excessive variations. The suit was struck off but only on grounds of failure to provide sufficient particulars on the quantum of damages sought.

Reasons for rejecting contractor's claims

The point has already been made that a lot of effort has been directed at redrafting contracts and improvement of parties' ability to interpret terms of contract. Whether this emphasis has had any impact on the attempts to improve contractual relations has not been established. In this respect, consultants were asked to indicate the main grounds on which they reject part or all of contractors claims. In all cases, the respondents were asked to indicate, using a 0–10 scale (where 0 = not frequent to 10 = most frequent), the frequency of citing a particular reason as grounds for rejection.

The ranking of their response (shown in Table 3) suggests that the reasons most commonly cited are non-entitlement in principle, inadequate information and quantification of claim, with a statistically significant level of concordance (W of 0.38). They ranked lack of breakdown of claims by causes above non-compliance with contractual procedures.

Non-entitlement in principle

That non-entitlement in principle is the most common ground for rejection of claims is contrary to expectation. Many expert commentators, e.g., Powell-Smith and Sims (1989), write that justification of a claim in principle is hardly ever a difficulty. There are two possible explanations for this unexpected finding. First, understanding of the terms of standard forms is still inadequate in spite of the large volume of information dedicated to interpreting them. Second, there is a high incidence of contractors submitting unmeritorious claims on the offchance that a satisfactory outcome may just turn up. In the words of Zack (1993), some contractors may be of the conviction that "if I throw enough chaff into the air, money is bound to fall out".

Table 3 Reasons for rejection of part or all of contractors claims

Reason	Mean rank	Rank order
Non-entitlement in principle	6.20	1
Non-compliance with contractual procedures	4.20	5
Inadequate information	6.00	2
Lack of breakdown of claim by causes	4.57	4
Inadequate effort at mitigation	3.93	6
Validity of architect/engineer's instructions	2.43	7
Quantification of claim	5.50	3
Other grounds	3.17	8
W	Significance	
0.38	0.001	

This attitude may have been encouraged by a history of success with *ex gratia* claims (claims the owner accepts out of kindness rather than as a contractual obligation).

Inadequate information

Although the quality of contractors' information generally has been impugned by many writers, it was hoped that the larger contractors would have reduced the scale of this problem as a spin-off of computerization. However, the case studies and interviews indicated that, with the exception of a few exemplars, the problem has hardly been affected by size and computerization. It was a common comment among consultants that what little information is submitted to support claims usually is captured by systems designed to produce internal accounting information which has, at best, only the most tenuous connection with claims. Investigation of the underlying causes of this problem identified: (i) a culture of bias against paperwork on the part of site operatives; (ii) poor design of recording systems; (iii) the paper-based nature of most of the relevant information; and (iv) poor resourcing of the claims management role in contracting organizations.

It would appear that owners, by accepting some poorly substantiated claims, have failed to provide contractors with a real incentive to improve the quality of their information systems. Some contractors openly admitted that even where the information is available, it usually is very expensive to retrieve and organize in the format required to support claims for various reasons: (i) the information is paper-based; (ii) it is scattered over many different functional roles; and (iii) claims tend to be submitted after completion by which time the parties with the requisite understanding of the information might have moved on. To avoid this expense, contractors adopt a strategy of submitting claims, in the first instance, with minimum supporting information in the hope of getting away with it through their negotiation or 'claimsmanship' skills. Many consultants commented that it is common for information that had not been forthcoming from contractors to surface during subsequent litigation or arbitration proceedings.

Quantification

Most of the issues were linked to lack of breakdown of claims by causes, use of formulae and whether the cost of resources should be historical or current figures. These issues are covered under appropriate sections of the rest of this paper.

Lack of breakdown by causes

A common anecdote at construction law seminars is that many a contractor waits until completion, determines the actual cost of carrying the works and then submits a claim representing the excess of this figure over the tender allowance for costs. It is further claimed that, usually, no attempt is made to particularize the amount claimed by causal events. In the UK this approach to quantification has been dubbed the "global claim" or "rolled-up claim". In the US they are referred to as "total cost claims" (Zack 1993; Byrne, 1995).

The courts have commented repeatedly on the global claims approach. *J. Crosby & Sons* v *Portland Urban District Council* (1967) 5 BLR 121 was referred to the court from an arbitration concerning claims for variations and suspension of the works. The arbitrator found that, out of a total delay of 46 weeks, 31 weeks had been caused by matters for which the owner was responsible. A lump sum award was made against the owner for this element of the delay. One of the points of law referred to the court was whether the arbitrator should have provided a breakdown of the sum awarded by the various causative events for which the owner was responsible. The arbitrator justified his award as follows: "The result, in terms of delay and disorganization, of each of the matters referred to above was a continuing one. As each matter occurred its consequences were added to the cumulative consequences of the matters which had preceded it. The delay and disorganization which ultimately resulted were cumulative and attributable to the combined effect of all these matters. It is therefore impracticable, if not impossible, to assess the additional expense caused by delay and disorganization due to any of these matters in isolation from the other matters".

The judge rejected the argument that the arbitrator should have provided such a breakdown in the following terms. "Since the extent of the extra cost incurred depends upon an extremely complex interaction between the consequences of the various denials, suspensions and variations, it may be difficult or even impossible to make an accurate apportionment of the total extra between the several causative events . . . I can see no reason why he should not recognize the realities of the situation and make individual awards in respect of those parts of the individual items of the claim which can be dealt with in isolation and a supplementary award in respect of the remainder of these claims as a composite."

A detailed analysis of the decision is beyond the scope of this paper, but a common interpretation has been that it is justification of the global claim approach. From the gloss put on the judgement in subsequent cases (*Merton L.B.C* v *Stanley Hugh Leach Ltd* (1985) 32 BLR 51, *Mid-Glamorgan County Council* v *J. Devonald Williams, Wharf Properties Ltd.* v *Eric Cumine Associates No. 2* (1991) 52 BLR 1; *GMTC Tools and Equipment* v

Yuasa Warwick Machinery Ltd (1995) TLR 1), the current position on the global claim approach may be summarized as follows: (i) If the terms of the particular contract contains preconditions regarding what must be done in respect of specific events relied upon as giving rise to the claim, then those preconditions must be complied with. (ii) A proper nexus should be established between each event relied upon and the amount claimed. (iii) Where the events give rise to so complex and interacting consequences that establishing this nexus for individual events is impossible or impracticable, it is permissible to maintain a composite claim. The burden of proof of impossibility or impracticability of particularization is on the contractor.

The global claim problem is inherently more difficult for contractors to overcome than the other grounds upon which claims are rejected. However, in terms of frequency in practice, it has been ranked only fourth and with a score below 5. This suggests that the extent of the problem may have been exaggerated by the high profile nature of the relevant court cases. The relative novelty of this type of suit against owners' consultants may have contributed in this respect. Consultants interviewed indicated that where reasonable efforts at particularization are made, they have due regard to the realities of complexities of cause and effect on construction projects. However, every interviewee said they had come across the worst examples of the global claim approach, particularly in connection with costs of disruption.

Disputed head of claims

The rejection of contractors' claims is unsatisfactory on two main grounds. The abortive costs of preparing and assembling the relevant information and of preparing and submitting the claims are likely to be passed on to future owners, and ultimately to the wider society. Also, rejection often results in disputes which are then resolved at great expense. There is therefore the need not only to avoid unmeritorious claims but also to ensure that valid claims are submitted in a manner calculated for acceptance with minimum fuss.

With this need in mind, one of the objectives of the research questionnaire was to determine the heads of claim often in dispute. Knowledge of such heads and the grounds upon which they are rejected would be the ideal starting point for improving the preparation, documentation and evaluation of claims. The responses of the consultants (shown in Table 4) indicated that the heads most commonly in dispute are: (i) cost of disruption, (ii) head office overheads; and (iii) cost of preparing the claim. The reasons for rejection are discussed in turn for each head.

Table 4 Heads of claims likely to be disputed

Head of claim	Mean rank	Rank order
On-site overheads	3.66	7
Head office overheads	4.84	2
Loss of profit	4.11	5
Inflation of costs	3.76	6
Interest and finance charges	4.82	3
Cost of disruption	6.61	1
Cost of preparing claims	4.26	4
Others	3.95	8
W	Significance	
0.1988	0.000	

Cost of disruption

A recent study of 24 construction projects reported by Semple *et al.* (1994) found that 50% of the value of claims were for loss of productivity or disruption. According to the authors, this resulted from a combination of reasons including acceleration, which presents significant problems in assigning responsibility for costs (Farrow, 1991). The general approach in the quantification of this head of claim is to extract the labour and plant content of the work affected assuming no disturbance, to determine the actual costs of these elements and to take the difference as the amount reimbursable. However, allowance has to be made for extra costs which are incurred because of the contractor's own fault. Within this general approach, the following specific methods are commonly used: (a) evaluation of plant and labour records; (b) review of labour/plant activity; (c) analysis of extensions of time; and (d) application of a general productivity formula. Most of these methods assume that the contractor has maintained adequate records of performance on the disrupted activities not only during the period of the disruption but also in normal times. Most UK standard forms contain provisions which empower the contract administrator to require the contractor to keep records pertaining to situations likely to give rise to this head of claims. However, most of them are silent on the type and detail of programming required, the detail, format and general quality of records, and sanctions against failure to comply. The difficulty in the UK stems mainly from the fact that the requirements for such programmes are not enforceable contractually. The consequence, in the case of programmes of work, is that it is not possible to use them as benchmarks for assessing actual performance without controversy. As a result, a valuable tool for settling disputes is lost and consequently, there is recourse to the global claims approach to which most consultants object.

All interviewees lamented frequent lack of records and general poor quality of what is available, particularly programmes, most of which were only in Gantt chart form and were hardly ever a true reflection of actual site performance. It was a general complaint that, in the absence of adequate records, contractors resort to claiming percentages of total labour estimates or actual labour costs of disrupted operations as the reimbursable element for disruption. The main drawback of this approach is that usually there is no objective justification for the percentage used.

Interviewees nevertheless understood that, even with the best records, this head of claim is very difficult to estimate with any degree of precision. Therefore it should not be surprising that it was scored significantly higher than other heads. From the case studies and interviews, desirable remedial strategies include: (i) procurement systems that give the contractor a real incentive to improve its management information systems; (ii) greater use of the contract administrators' powers to demand that certain information on disruptions be supplied; (iii) contractual provisions that require the contractor to supply time-impact analysis; and (iv) systematic and up to date productivity studies to arrive at acceptable productivity formulae.

Head office overheads and profit

The principle that a contractor should be reimbursed for under-recovery of head office overheads on account of prolongation caused by events for which the owner is responsible is hardly disputed these days. What is usually in dispute is quantum. A number of methods, of which the Hudson, Emden and Eichleay formulae are the most popular (Kirsh, 1995), are used in quantifying this element of claims. Acceptability of the formulae have been touched upon by litigation, albeit with varying degrees of directness (*Ellis-Don Ltd* v *The Parking Authority of Toronto* (1978) 28 BLR 98, *Whitall Builders Co. Ltd* v *Chester-le-Street District Council* (1987) 11 ConLR 41; 40 BLR 82, and *Finnegan F.J. Ltd* v *Sheffield City Council* (1988) 43 BLR 124). The current position is that their use would be acceptable provided the contractor is able to demonstrate that the assumptions underlying their use apply (Wallace, 1995). The above comments also apply broadly to recovery of profit.

A section of the questionnaire sought to investigate the grounds upon which these heads of claims are usually disputed. It would appear that consultants, by and large, accept the use of the formulae and that the extensive literature on the subject is beginning to achieve the desired effect.

It was concluded from these responses, case studies and interviews that these heads of claim are challenged mostly on the grounds of lack of proof of the assumptions underlying entitlement to recovery of this head of claim and lack of justification for the overhead percentage claimed. Owners wishing to eliminate this problem altogether may consider agreeing the percentages as terms of their contracts.

Interest and finance charges

Respondents interviewed agreed that in principle this was an acceptable head of claim. Where a contractor presents the full trading accounts for the project the quoted interest could be claimed. In the absence of such evidence the current rate of borrowing was used as a guide in negotiating a percentage for interest and finance charges.

Cost of preparing the claim

Many claims take up a lot of managerial time to research and compile. Indeed, there is a growing industry in specialized claims consultancy available to contractors and sub-contractors where claims are particularly onerous on directly employed staff. Whether the cost of preparing a claim, either in-house or through independent claims consultants, is reimbursable has been a matter of considerable controversy. According to one school of thought, where the terms of a contract expressly provide for the submission of claims, then the contractor would be deemed to have priced for the cost of preparing claims and should therefore not be entitled to recover this head. Most of the consultants interviewed subscribed to this view and invariably disallow this head.

A contrasting view is that where the contractor has to carry out special research in order to quantify the claim and the scope of such research could not reasonably have been foreseen at the time of tendering, then the cost of preparing the claim ought to be allowed. It was a common view of contractors that, in the current state of the construction industry, the amount of effort would satisfy this condition in most cases. On one of the projects studied, it took the contractor's quantity surveyor and site manager and an external claims consultants 12 working weeks to assemble an approximately £300 000 claim. The fees payable to the consultants alone were a staggering £60 000. Consultants, whilst expressing the view that they were bound to comply with the principle on non-recoverability, nevertheless recognized that in the current climate of competition in construction, making allowances for costs of this scale in a tender would almost certainly result in loss of the bid.

Many contractors continue to claim this head of cost even though they are aware of the argument against

recoverability. Analysis of the law suggests that they have chances of winning if they persist with the claim. The reason is that if the claim ends up in litigation and the contractor chooses to formulate the claim as damages for breach of contract and not damages under the terms of the contract, the costs would be allowed under the principles governing the recovery of damages of breach of contract (*Piper Double Glazing* v *David Caulfield* (1989) 64 BLR 32). An express exclusion of such costs may not even bite because of legislation against unfair terms in contracts.

It therefore would appear that there is no completely satisfactory way of avoiding this type of dispute purely by contractual provisions. That some contractors persist with this head of claim suggests that owners and contractors compromise and agree some recovery. Contractors can minimize this cost by: (i) site management practices and integrated management information systems that allow transparent access to all claims-relevant information; and (ii) contract management personnel with appropriate expertise in claims. The current culture of keeping information up parties' sleeves works against the desired transparency. A way around the problem is for owners and the advisers to put far greater emphasis on bidders' site management practices and information systems than has been the norm. It may be that this approach will result in the acceptance of higher tenders. If the benefit is less disputes during contract execution it may be a price worth paying.

Inflation of cost

Respondents were asked to consider two issues relating to inflation costs: their recoverability in principle and evidence of extra costs beyond fluctuation allowance. The analysis of consultants' responses shows that the principle is not a very important issue compared with a contractors' ability to present evidence of additional costs beyond that allowed by the price fluctuation clause in the contract. Cost records, according to consultants, should be available for an informed ascertainment to be made to avoid disputes.

On-site overheads

Answers to subsidiary questions indicated that this head of claim is usually disputed on: (i) lack of transparency on contractors' quantification of this head of claim; and (ii) use of current unit costs of relevant resources which often are higher than the costs used by the contractor in tendering for the job.

The problem of lack of transparency is most acute where the contractor priced preliminary items as a percentage of direct costs. Although current standard methods of measurement do not follow this approach, there was evidence that it is still being used. Contractors who adopt this pricing approach at tender often quantify this head of claim as the same percentage of increases in the relevant work and with no attempt to relate the amount claimed to specific resources. This problem is easily cured by the use of a schedule of preliminaries, not only for pricing tenders but also for quantifying on-site elements of claims. Where the schedule is in the form of a bar chart with annotations for costs per week or other appropriate planning periods, the impact of a claim event on on-site overheads is only too apparent. The effectiveness of the schedule is limited only by the lack of powers granted by standard forms of contract to contract administrators to require contractors to submit this type of information.

There was a difference of opinion between contractors and consultants, concerning unit prices of resources to be used in quantifying this head of claim. Contractors insist that current prices should be used whereas consultants are in favour of the use of unit prices inherent in the contractor's tender. The right approach depends on the terms of the particular contract. Most standard forms of contract state expressly that pricing of any additional or substituted work component of changes should be at the price level inherent in the contractor's tender. This is not the case with claims for disturbance and disruptions to contractor's progress. It would therefore appear that contractors have the better argument on this issue.

Supporting documents

An aim of the research was to investigate the adequacy of documents submitted by contractors in support of their claims. Consultants were therefore asked to indicate, on a 0–10 scale, their perceptions of the frequency with which contractors fail to submit specific documents required for the evaluation of claims. Their responses (summarized in Table 5) indicate that the documents most lacking are photographs, timesheets, and site diaries. As these are the most basic of site records, this finding is a sad reflection on the quality of site management. From interviews with contractors, even where these records have been kept, access to the specific records required to support a particular claim is so expensive that it is not attempted unless arbitration or litigation is contemplated. Interviews with contractors suggest that, poor resourcing of the claims management function hinders the maintenance of records of the requisite quality. It would appear that there is a general tendency to ignore claims until after completion, by which time human resources can be freed from other functions to investigate the claim.

Table 5 Documents lacking in claims presented by contractors

Document	Mean rank	Rank order
Revised drawings	10.95	4
Levels records	6.30	14
Site diaries	11.20	3
Photographs	13.50	1
Schedules	7.55	12
Minutes of site meetings	6.55	13
Analysis of tender	9.10	5
Specifications	5.25	16
Records of delay and disturbance	8.65	7
Time sheets	11.35	2
Correspondence	8.75	6
Conditions of contract	8.05	8
Bills of quantity	8.00	9
Day works records	7.85	10
Claim documentation	7.65	11
Other documents	5.30	15
W	Significance	
0.2683	0.000	

The technology required to reduce the expense of access is now well established. Electronic document management systems now are used routinely by insurers and the banks. They allow information stored in different forms to be linked and accessed flexibly by subject matter with minimal transaction costs. It is a matter of some regret that few contractors are even beginning to appreciate the value of these systems.

Conclusions

The expertise, negotiation skills and workload of contract personnel responsible for evaluating claims submitted by contractors is of paramount importance in preventing disputes. Although most of the standard forms of contract allocate this responsibility to the owner's A/E, in some cases this is delegated to PQSs. Some A/Es openly admitted that they are not sufficiently knowledgeable on the subject of claims and have no desire to improve their knowledge in this area. This is a very ill advised stance because owners are increasingly bringing proceedings against A/Es for negligent performance of their claims management responsibilities.

Both sides of the industry recognize that it is often impracticable, or even impossible, to establish a causal link between each event allegedly giving rise to a claim and quantum. The contractual machinery breaks down in such instances. In private sector contracts consultants more readily accept this limitation and approve claims where contractors have not been able to comply with contractual requirements to the letter. Even where the claims are disallowed, contact between the top management of the owner and that of the contractor often results in amicable settlement of the claim. In contrast, consultants are particularly cautious with claims in public contracts because public owners are more likely to insist on complete performance of contracts' requirements on claims. Some contractors are aware of the difference and take greater pains with maintenance of records on public contracts than on private sector contracts.

The production of claims in acceptable detail and with sufficient supporting documentation is very onerous. Yet, in terms of resourcing, it is not recognized as a management function requiring human expertise to give continuous attention to claims-relevant matters throughout the execution of contracts. All too frequently, claims begin to be investigated only after practical completion. The commercial feasibility of pricing contracts on the assumption of the necessary resource levels is questionable in the current state of competition in the construction industry.

The experience of consultants is that the cost of disruption and head-office overheads are the most controversial heads of claims. In spite of the extensive literature highlighting the problem, there was little evidence of improvement. There is therefore a need to look for approaches other than mere exhortations to contractors to keep better records. One such possible approach is for owners and their advisers to place greater emphasis on the quality of contractors' claims management systems at the bid selection stage. This can be coupled with agreeing some of the matters normally in dispute, e.g., percentage for head-office overheads and profits and unit costs of key resources, as terms of contracts.

Contractors' claims management practice and related information systems were perceived to be woefully inadequate in many cases. Increased affordability of information technology tools does not seem to have made sufficient impact. Since some of the most basic documents are often lacking, the situation cannot be attributed wholly to lack of appropriate knowledge or the will to change on the part of contractors. The state and nature of competition in construction works against good practice in these areas. Furthermore, a culture of insufficient emphasis on the management practice and information systems in the evaluation of tenders and subsequent brinkmanship with information also come into play. Project owners are best placed to initiate change in the right direction.

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