

IMPROVING MANAGEMENT OF CLAIMS: CONTRACTORS' PERSPECTIVE

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ABSTRACT: There is high incidence of disputes arising from construction contract claims. Even with the most expert understanding of construction contract clauses and the most equitable risk-allocation regime, claims will continue to present problems if they are poorly managed in practice. The research reported in this paper was aimed at identifying shortcomings, and their causes, in claims-management practice. It consisted of a comprehensive review of literature on the subject, a postal questionnaire survey of, and interviews with, contractors and consultants, and case studies of claims on projects. A major finding is that claims management is not treated as a management function on the same footing as estimating, planning, scheduling, and cost control. It is poorly resourced and performed in an ad hoc manner. As a consequence claims-related issues are too often put in abeyance until project completion when necessary resources are released from recognized functions. Issues, documents, and information normally at the center of disputes have been identified. These have to be the focus in decision making, in training, and in redesigning relevant company information systems, and must change management strategies.

INTRODUCTION

Claims are becoming a way of life (Barrie and Paulson 1992; Latham 1995). They are natural, and according to Bradley and Langford (1987), inevitable, and indeed an indispensable part of modern contract systems. As a result of this realization, courses and publications on various aspects of claims management are now so popular that they are almost an industry in their own right. However, despite this acceptance the use of the word "claim" still generates emotive responses, often accompanied by accusations and counteraccusations (Scott 1992). The consequence is very often a breakdown in communication, polarization of views, and the inevitable recourse to arbitration or litigation with their attendant delays and expense.

In an attempt to redress this situation, two main strands of research and commentary have evolved. The first examines in detail the legal implications of common construction contract clauses. Such analyses—notably

by Powell-Smith and Sims (1989), Trickey (1990), Wood (1985), Thomas et al. (1994), to name but a few—generally agree that where a party making a claim can demonstrate that the terms of contract have been breached, cost items (or heads of claims) such as on-site costs, cost of disruption, head-office overheads, and loss of profit are recoverable. They also go to great lengths to illustrate quantification methods, stressing the need for the contractor to substantiate every claim properly.

The second has focused on the allocation of risk under construction contracts (Bosche 1978; Levitt et al. 1980), suggesting that the way risk is allocated determines the likely occurrence of claims and disputes on a project. The approach in this analysis has often been to identify the potential causes of claims (Semple et al. 1993; Jeargas and Hartman 1994) followed by the evaluation of the terms imposed by contract provisions. This approach has been the impetus behind the drafting of new forms of contract by Hartman (1990) in the Canadian context, introduction of the New Engineering Contract (*New* 1993) in the United Kingdom, and the suggestion by the recent government-sponsored review of the U.K. construction industry that most of the standard forms of contract needed fundamental redrafting (Latham 1994).

Although these themes are legitimate areas of investigation, there has been very little or no investigation of the reasons why, in the light of the solutions offered by such research, claims and disputes continue to escalate (Kangari 1995). Research reported in this journal and commentaries by consultants suggest a need for complementary research into the claims-management process.

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For example, the recent survey of arbitrators by Kangari (1995) found that proper project activity documentation influences dispute resolution. The recent Construction Industry Institute (CII)-sponsored research in the United States reported by Diekmann and Girard (1995) suggests that apart from personnel, the management process was more important than project characteristics (defined to include the nature of the contract signed) as a reason for disputes.

Commentary by Brewer (1993), a director of a leading U.K. construction contract consulting firm, puts the claims-management issue into its proper perspective. In the view of that writer, the essence of good claims management is not to lodge a heavy document at the end of a project and call it "request for additional expenses" while scrupulously avoiding the term "claim." Instead it should always be ensured that the claimant's fullest entitlements are identified on a regular basis, with adequate detail to ensure that appropriate sums are paid through interim payment mechanisms. This approach to claims-management practice is the exception and not the rule. The implication is that there has to be an adequate management setup to deal with claims, irrespective of the contract terms or the balance of risk allocation in order to avoid disputes. Unfortunately, there has been no report in the public domain of such an investigation. The general aim of the research reported in this paper is to attempt to bridge this gap.

The premise is if the contractor has the proper management setup to justify, quantify, and present claims for events under the control of the owner or his agents then chances of protracted disputes are reduced. Virtually all the standard forms of contract recognize this reality by having express provisions that entitle the contractor to monetary compensation and time extension. The term "claim" in the proper context therefore needs not carry any pejorative overtones. What should be discouraged is the attitude to claims management described by Zack (1993) where it becomes the art or practice of making and winning claims by questionable expedients without actually violating the rules or, even worse, an attempt to turn a marginally profitable project into a more profitable one. The reality is that events the owner or his agents are responsible for will always cause construction delays and extra costs. The challenge under these circumstances is to find efficient ways of preparing, evaluating, and settling claims. This should begin with an investigation of aspects of the claims-management process that hinder their preparation and evaluation in an expeditious and transparent manner.

RESEARCH METHODOLOGY

An extensive review of the claims-management literature and case law was undertaken to identify the basic issues common to construction contract claims and the disputes arising from them. This required establishing the nature of the burden of proof that the claimant has to attain to be successful and the acceptable standards of presentation and documentation of claims.

Based on this review a postal questionnaire survey was designed to identify the practical management problems associated with the justification, preparation, and assessment of claims. This necessitated investigation of four main areas of claims management (1) aspects of claims preparation that hinder the contractor; (2) responsibility for the claims-management function in the contractor's management setup; (3) problems with claims documentation; and (4) aspects of quantification likely to result in disputes.

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

CONTRACTORS' RESPONSES

Of 200 questionnaires sent out to U.K. contractors, 69 were returned, 61 of them completed properly; a response rate of about 32%. The breakdown of the broad categories of respondents, in terms of specialization and turnover, is shown by Tables 1 and 2, respectively.

The smaller construction companies with turnover less than U.S. \$15,000,000 were least represented. More than 80% of the responses were from firms that may be described as medium to large. Since this category of contractors are more likely to be involved in large and complex projects, the response gives some corroborative evidence for the commonly held view that claims are a problem on such projects.

METHOD OF ANALYSIS

The topic of claims management and the issues this research aims to unravel are based on the experience of construction professionals, which is likely to be subjective in some respects. The statistical tests selected must, of necessity, measure the significance of the answers in as broad a perspective as possible without making assumptions about the population parameters. In these cir-

TABLE 1. Categories of Responding Contractors

Category of contractor (1)	Respondents
	(%) (2)
Building only	47
Civil engineering only	17
Building and civil engineering	34
Others	2

TABLE 2. Grouping of Respondents by Annual Turnover

Annual turnover (millions of U.S. \$) (1)	Respondents
	(%) (2)
Less than 7.5	2.2
7.5-15	2.2
15-30	13.3
30-75	31.2
75-150	24.4
More than 150	26.7

cumstances statistical tests other than parametric ones (i.e., nonparametric) are more appropriate.

For interpreting the postal survey, the Kendall Concordance Test (Kendall 1970) was used. This statistical test generates means scores (ranking) and measures the level of agreement between ranks referred to as the coefficient of concordance (W). A high or significant value of W indicates strongly that the order of ranks generated from respondents' scores is representative of the wider group of practitioners. The theory behind this statistical technique can be found in Siegel and Castellan (1988). For reasons of accessibility to the widest cross section of readers, detailed statistical analyses have been kept to a minimum in this paper.

ASSESSMENT OF FINDINGS

Responsibility for Claims Preparation

The preparation and evaluation of claims require some effort and skill on the part of the contractor. Naturally the level of skill and experience applied to the claims-management function can determine the success or failure of the claim. It was therefore important to determine whether the task of preparing claims is specifically assigned or performed on an ad hoc basis. This should put the problem of the quality of claims documentation into perspective and also provide some indication of where resources for training should be directed.

Contractors were asked to indicate on a scale 0–10 the involvement of various categories of project staff with claims preparation, where 0 = no involvement to 10 = total involvement. The analysis of responses is shown in Table 3.

The order of ranks suggests that the project quantity surveyor (PQS), the head office quantity surveyor (QS), and the project manager play the most significant role in claims preparation. The high and significant value of concordance ($W = 0.67$) for the rankings confirms this.

From this response on involvement it appears that the PQS's knowledge of the costing of works and its monitoring is used in the preparation of claims. The exact role of other project team members, such as the project manager and site planner/agent, cannot be established by looking at their ranking. However, this suggests that they play subsidiary roles in the preparation and evaluation of contractors' claims.

The low ranking of the claims surveyor implies that either claims preparation is not yet regarded in most con-

struction firms as a specialized project management function requiring the assignment of specific personnel, or they do exist but most firms are reluctant to use the title for fear of being branded as "claims conscious." The higher ranking of others, which includes commercial managers and internal legal advisors, may be some confirmation of this. From the order of ranks it also appears that internal preparation of claims is favored over the use of external claims consultants.

Based on the responses it can be inferred that the quality of claims documentation depends very much on the experience and skill of PQSs whose primary role is to price changes, prepare periodic valuations of work in progress for payment on account, seek and vet quotations from prospective suppliers and subcontractors, and to monitor budgetary performance. The demands of these roles can result in the PQS overlooking or postponing claims submissions until after project completion. The case studies and interviews confirmed unequivocally that in most cases fully detailed claims submittals are not made until the project is substantially complete. One way of getting around this problem is to assign this function, as a primary role, to a member of the project team. This officer could then be assisting in the monitoring of the project and ensuring that adequate records are kept. The advantage of such an arrangement is that the project team member so assigned will be well versed in the day-to-day running of the project and thus better placed than others to evaluate the implications of site events.

Time Involved in Preparing Claims

Preparing claims takes time. In order to overcome the problem of contractors leaving claims until project completion, the aspects of claims preparation that delay or hinder the process must be identified for the design of appropriate remedial strategies.

With this in mind contractors were asked to rate eight aspects of the claims preparation process in terms of the time involved. The analysis of the contractors' responses, summarized in Table 4, shows that the most time-consuming aspects of claims preparation are preparing the claims documents, identifying relevant information, claim quantification, claim justification, and retrieval of information, in that order. Archiving project information takes the least time. This suggests that this task is not given the importance it deserves because ca-

TABLE 3. Level of Involvement of Project Staff in Claims Preparation

Staff (1)	Rank order (2)
Project manager	3
Project quantity surveyor	1
Head office-based quantity surveyor	2
Site planning manager/agent	4
Claims surveyor	7
External claims consultants	6
Others involved	5

Note: $W = 0.67$; significance = 0.00.

TABLE 4. Time Involved in Aspects of Claims Preparation

Aspect of claim preparation (1)	Rank order (2)
Identifying relevant information	2
Identifying sources of information	6
Retrieving relevant information	5
Archiving relevant information	8
Interpretation of contracts and justifying claims	4
Response to architect/engineer's request for information	7
Quantifying claims	3
Prepare claims documents for presentation	1

Note: $W = 0.22$; significance = 0.000.

sual archiving is likely to result in insufficiently accessible records long after project staff have dispersed.

Further analysis of their responses revealed that more than two-thirds of respondents ranked from 6 to 10 the time involved in the five highest-ranked aspects of claims preparation. The statistically significant level of agreement ($W = 0.22$) suggests that all aspects of claims management are essentially time consuming.

Three main reasons explain the clear indication that preparing claims takes a lot of time. First, the construction industry is notorious for not documenting procedures and transactions. Kangari (1995) attributes this failing to a tendency to regard information management as a non-value-added component of the construction process. The interviews and case studies suggest that most of the information recorded is of a cost-accounting nature. The problem with these types of records is that they do not contain information relating directly to resource usage on scheduled project activities but only indicate apparent fluctuations in the cost of the project. Second, information on project activities are not readily accessible to individuals assigned these roles. Finally, in an environment where most project information is transferred using the paper medium, the identification and subsequent retrieval of relevant information will be time consuming. Whichever situation applies, there is clear need for systematic documentation of project activities.

The problem of documentation can be tackled in two complementary ways. The first strategy will be to put in place a matrix of documents designed to record specific information on scheduled activities with an appropriate electronic document management system (EDMS) for each project. The main aim would be to record information capable of supporting claims preparation instead of relying on cost-accounting records.

However, in order to implement these remedial measures effectively considerable retraining complemented with appropriate changes in management strategies will be required. This can be linked to corporate total quality management systems providing assurance that the EDMS is being operated satisfactorily.

Cost Involved in Preparing Claims

The contractors were also asked to indicate which aspects of the claims-preparation process entailed the most cost. The aim, as in the case of the time involved in claims preparation, is to identify the reasons for the lack of enthusiasm on the part of contractors in preparing fully documented claims soon after the occurrence of the relevant events. Their response (Table 5) suggests that preparing the claim documents, quantifying the claim, retrieving information, and identifying claims relevant information, in that order, are the most expensive.

Follow-up interviews suggest not only a lack of skill in preparing the claim, but also that gathering relevant information for quantification is costly. Many interviewees suggested that in order to avoid the additional cost of retrieving relevant claims information, contractors use general formulas or the so called global claim approach, which has been castigated repeatedly by the U.K. courts,

TABLE 5. Cost Involved in Aspects of Claims Preparation

Aspect of claim preparation (1)	Rank order (2)
Identifying relevant information	4
Identifying sources of information	6
Retrieving relevant information	3
Archiving relevant information	7
Interpretation of contracts and justifying claims	5
Response to architect/engineer's request for information	5
Quantifying claims	2
Preparing claims documents for presentation	1

Note: $W = 0.49$; significance = 0.165.

notably in *J. Crosby & Sons v. Portland Urban District Council* [5 *Building Law Reports (BLR)* 121 (1967)] and in *London Borough of Merton v. Stanley Hugh Leach* [32 *BLR* 51 (1985)]. It appears that presenting detailed information is not the initial tactic where some form of settlement can be reached through negotiation. This probably accounts for the equal ranking for "response to architect/engineer's request for information" and "justification and interpretation of events."

Any system designed to alleviate these problems should be based on a matrix of standard documentation of project activities. This will enable access to facts by identifying events responsible for cost and time overruns and the parties responsible. Contractors have to examine what is recorded and put in place clear and simple methods for recording time and resource usage on specific project activities.

Heads of Claims Likely to Be Disputed

The most common cost headings of construction claims are on-site overheads, head-office overheads, loss of profit, inflation of costs, interest and finance charges, cost of disruption, and cost of preparing claims. A lot of attention has been devoted to ways of quantifying them and their justification in law. The literature suggests that each item of cost presents its own special difficulties. However, differences of opinion exist as to reasons for these difficulties. To gain an indication of which aspect of the quantification of these costs require special effort or attention, the contractors were asked to rate the extent to which recovery of each element is disputed in practice (on a scale of 0 = not likely to 10 = most likely).

The results of the analysis, shown in Table 6, indicate that the cost of preparing claims, loss of profit, and disruption costs are most likely to be disputed in practice.

TABLE 6. Heads of Claim Likely to Be Disputed

Head of claim (1)	Rank order (2)
On-site overheads	8
Head-office overheads	4
Loss of profit	2
Inflation of costs	7
Interest and finance charges	5
Cost of disruption	3
Cost of preparing claims	1
Others	6

Note: $W = 0.6143$; significance = 0.000.

The high and significant value of concordance ($W = 0.61$) suggests that the order of ranks is a true reflection of the experience of most contractors.

Further analysis showed that each head of claim listed in the questionnaire was rated from 5 to 10 by more than 50% of the respondents. This implies that although the rankings suggest that on-site overheads were least likely to be disputed its quantification may be a frequent source of dispute. To establish the reasons for disputes over quantification of each of these elements, the respondents were also asked to indicate, on a similar scale, aspects of the quantification of each head of claim that are likely to be sources of disputes. The contractors' responses to these questions are presented and analyzed in the following sections.

Cost of Preparing Claims

Of particular significance is the high ranking of the cost of preparing claims. The review of literature, confirmed in interviews with consultants, indicates that this head of claim is disputed in principle. The argument against acceptance is that because most construction contract terms expressly anticipate the submission of claims the contractor should make provision for this cost in pricing tenders. However, Powell-Smith and Sims (1989) suggest that where the nature of the claim entails more input into preparation than can be reasonably anticipated then the contractor must establish a special cause for recovery. However, the acceptance of this head of claim depends on the terms of the particular contract.

Loss of Profit

One of the most debated heads of claim are those for loss of profit. In law this item can be claimed as part of loss and expense. The questionnaire required the respondents to rank lack of evidence of alternative profit-making opportunity and profitability on current project as causes of disputes. The respondents ranked lack of proof of alternative profit-making opportunity higher.

Contractors may therefore have to take seriously their obligation to accompany claims documentation with the audited accounts and bid invitations to demonstrate their capacity to earn the profits stated in the claim.

Disruption or Loss of Productivity

Disruption on construction projects can result from changes in the sequence of works stemming from commonly recognized events such as late receipt of instructions, change orders, and other instructions. The cost impact of these events to the contractor represents one of the major sources of claims and more than 50% of the total cost of claims (Semple et al. 1994). How this item is quantified is therefore very important. Three methods of quantification are recognized (Trickey 1990): using labor and plant records, using general productivity formulas, and general percentages.

To give some indication of what would constitute good practice in costing this item, the respondents were asked to indicate the likelihood of a number of issues relating to its quantification leading to disputes (Table 7).

TABLE 7. Aspects of Disruption Cost Claims

Aspect of disruption (1)	Rank order (2)
Lack of plant and labor records	3
Allocation of responsibility for disruption	4
Use of general formulas	2
Use of general percentages	1
Others	5

Note: $W = 0.21$; significance = 0.383.

The order of ranks suggests that applying general percentages or using general formulas is more likely to result in disputes. Consultants interviewed normally demand contemporary records of site activity.

To remove this potential source of dispute Wallace (1986), for example, suggests it would be good practice to analyze closely any contract program required to be supplied by the contractor. This can be done by correlating the resource information in the program to the contractor's recorded labor and plant output on site. The difficulty in the U.K. is that the preparation of a resource-loaded program of works is not a requirement of most standard construction contracts.

According to the consultants interviewed this situation is made worse by the fact that all too often where this is done the program did not represent the actual sequence of works, was never updated, and was in the form of a bar chart. Remedial measures include more stringent requirements of the contractor's program and training of contractor's personnel in the use of programs to substantiate claims.

Head-Office Overheads

There has been a long-standing debate over the use of formulas for quantifying head-office overheads. The Hudson's and Emden's formulas are used in the U.K. while the equivalent Eichleay formula is used in the United States. The use of these formulas has been raised in litigation. For example, the Canadian case *Ellis-Don Ltd. v. Parking Authority of Toronto*, 28 BLR 98 (1978), and *Finnegan Ltd. v. Sheffield City Council* [43 BLR 124 (1988)] have been interpreted as judicial approval for the Hudson formula. This appears to contradict the decision in *Tate & Lyle Food and Distribution Ltd. v. Greater London Council* [1 All England Law Reports (1 All ER), 1159 (1982)] that suggests that the burden of proof to which a contractor can be subjected is not diminished by using such formulas. However, exactly what has been decided in these cases continues to be a matter of considerable controversy (Kirsh 1995; Powell-Smith 1994). To complicate matters, some commentators interpreted the *Ellis-Don* and *Finnegan* cases as a judicial endorsement of the Emden's but not the Hudson's formula (Sims 1989).

In order to understand contractor views and practices in this respect the respondents were asked to indicate the likelihood of a number of aspects or methods of quantifying head-office overheads leading to disputes (Table 8). The aim was to give some indication of best practice

TABLE 8. Quantification of Head-Office Overheads

Aspect of quantification (1)	Rank order (2)
Using percentage of general office overheads	2
Inadequate records of direct head-office involvement	4
Recoverability in principle	5
Use of Hudson's formula	3
Use of Emden's formula	3
Use of general formulas	1
Others	6

Note: $W = 0.73$; significance = 0.186.

in quantifying this item of costs in the light of the ongoing debate.

The order ranks suggests that the use of general formulas or applying a percentage to direct costs as general head-office overheads was most likely to lead to dispute. The responses reflect the debate reported in literature. The interviews and case studies suggest that contractors are continuing to ignore the need demonstrate that the assumptions underlying the use of formulas apply.

Interest and Finance Charges

Respondents agreed in interviews that in principle interest and finance charges were 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.

Inflation of Cost

Respondents were asked to consider two main issues relating to the quantification of inflation of costs: lack of evidence of extra costs beyond fluctuation allowance and recoverability in principle. The analysis of their response suggests that evidence of additional costs was more important as a reason for this head of claim being disputed. This implies that providing evidence of cost escalation using contemporary records is required. The lack of statistical significance of the order of ranks does not however confirm this interpretation.

On-Site Overheads

On-site overheads include preliminaries, and site supervision, plant, labor, and material costs. The respondents were asked to indicate on a 0–10 scale (0 = not likely to 10 = most likely) the chance of a particular item being disputed. Their responses (Table 9) suggest

TABLE 9. Aspects of On-Site Overheads

Aspect of quantification (1)	Rank order (2)
Unit cost of plant	2
Unit cost of materials	5
Cost of supervisory and management staff	3
Unit cost of labor	4
Availability of contractor's buildup of preliminaries	1
Others	6

Note: $W = 0.20$; significance = 0.071.

that the availability of a contractor's buildup of preliminaries, and of plant and supervision costs, in that order, are most likely to be the subject of dispute.

On this issue follow-up interviews indicated that while it might be acceptable for contractors to price on-site overheads as a percentage of the cost of works in tendering, using the same approach in quantifying claims often leads to disputes over quantum. For those contractors intent on a quick settlement, it may well be necessary to make a full disclosure of their buildup of preliminaries (subject to confidentiality). It may also be beneficial for employers to consider making the submission of contractor buildups of on-site overheads a condition for accepting tenders.

Extent of Use of Project Documentation

A lot has been made of the need to keep adequate records to substantiate claims. What actually happens in practice, according some commentators, is the exact opposite. In order to substantiate these assertions contractors were asked to indicate which documents they were likely to use in their claim submittals. Their response (Table 10) derived from a 0–10 scale (0 = never used to 10 = always used) indicates that correspondence, conditions of contract, and schedules are the most intensely used while site-activity records such as day works records, time sheets, revised drawings, records of delay, and disturbance and analysis of tender are least likely to be used.

This response is important because the contractors have indicated that information retrieval and identification of claim-relevant information for claims preparation were the most costly and time-consuming aspects of claims preparation. The absence of site records in claim documentation, as their response suggests, can be attributed to one of two possible reasons. First, the retrieval of information from paper-based records after project completion is expensive. Contractors would rather not attempt to use them if a reasonable settlement can be achieved without. Second, the relevant site records might

TABLE 10. Likely Use of Documents in Claim Presentation

Document (1)	Rank order (2)
Bills of quantity	13
Claim documentation	4
Minutes of site meetings	9
Schedules	3
Photographs	7
Site diaries	5
Level records	15
Conditions of contract	2
Correspondence	1
Timesheets	6
Day works records	11
Records of delay and disturbance	10
Specifications	8
Analysis of tender	14
Revised drawings	12

Note: $W = 0.39$; significance = 0.002.

not be accessible because no systematic method of documenting site-scheduled activity exists.

The low ranking of bills of quantities and analysis of tender was contrary to the researchers' expectation. Clarification was therefore sought during interviews. The justification was that as most claims are usually for actual "loss" and/or "expense" arising from defaults of the owner the bills of quantities and analysis of tender (being historical) are not an appropriate basis of pricing.

Use of External Consultants

Consultants specializing in claims management are not commonplace. However, the reasons for the growth of this speciality is a matter of opinion. Asked to indicate the circumstances in which they use external claims consultants, 24.5% indicated that they use them at arbitration hearings, 10% when the workload was high, 26.5% at arbitration hearings when the value of claim is high, and 10% at arbitration when their workload was high. It can be implied that the arbitration process has become so formalized, as suggested by recent articles on dispute resolution (Stewart 1992), that it requires as much preparation as litigation.

This means that not only will additional management resources be expended internally by the contractor in preparing and negotiating claims but if he fails there is the additional cost of consultants to consider in formal proceedings.

Orientation to Claims

When asked to indicate their orientation to claims, i.e., whether they pursue claims with all effort or avoid making them altogether, the analysis by turnover shows that the medium to large contractors (turnover greater than \$15,000,000) were more likely to pursue claims with all effort. The general response, however, indicates an ambivalent attitude. A mean orientation of 5.51 on a 0-10 scale (where 0 = never submit claims to 10 = pursue claims with all effort) indicates that perhaps, most contractors do not like to be seen as claims conscious, contrary to the view held by many owners and consultants. Further analysis (Table 11) revealed that civil engineering contractors were more likely to pursue claims compared with building or building and civil engineering contractors. This probably means that the use of remeasurement contracts for civil engineering works that provide some latitude to reassess rates and quantities gives civil contractors more scope in negotiating claims.

GENERAL COMMENTS

The respondents were asked to make general comments on the reasons or factors that delay preparation

TABLE 11. Orientation to Claim

Category of contractor (1)	Mean orientation (2)
Building contractor	4.5
Civil engineering contractor	8.8
Building and civil engineering contractor	5.5
Others	7.8

TABLE 12. Reasons for Delays in Claims Preparation

Reason for delay in preparing claims (1)	Respondents (%) (2)
Lack of resources	25.0
Experience no delays	2.1
Showing cause and effect	14.6
Lack of contemporary records	20.8
Poor records	10.4
Identifying and retrieving information	14.6
Awaiting response form architect/engineer	2.1
Poor records and lack of agreement on events	2.1
Time limitations	2.1
Agreeing to events	4.2
Others	7.8

and settlement of claims. The categorization of the comments is shown in Table 12.

The analysis shows that lack of resources is mentioned by 25%, lack of records by a fifth, and identification and retrieval of information by almost 15%. The overall message is that there is a need to reconsider seriously documentation protocols and resourcing of claims management.

CONCLUSIONS

The contractor is usually required to submit a well-argued statement of his entitlement upon the occurrence of defined events recognized by contracts. This statement generally referred to as "claims" has to be evaluated and acted upon by the owner's contract administrator. On this basis the term "claim" should not carry the pejorative overtones it has now acquired.

A consequence of the negative perception of claims is that many claims, far from being settled at the site level, turn into disputes needing resolution beyond the contract administrator. Reported research and expert commentaries aimed at improving this situation have followed, in the main, two themes: interpretation of problem-prone clauses in standard forms of contract, and equity-of-risk allocation. The research reported in this paper complements such earlier research but is based on the premise that even with the most expert understanding of contract clauses and the "ideal" risk allocation, the problems will continue if the claims-management process is very poorly performed. The broad focus of the research was therefore the identification of shortcomings in the strategic and operational aspects of claims management.

Practice regarding allocation of responsibility for claims management varied from contractor to contractor. The most common practice was allocation to the contractor's PQS whose traditional responsibility does not include claims preparation. As a result of the demanding nature of their usual role the common practice has been to leave claims preparation until project completion.

It was openly admitted during this study that record keeping is, at best, only as inadequate as the literature and anecdotes suggest. The researchers found that where records were kept, they were inaccessible, particularly after project completion. Furthermore, some accessible records were incomplete and were designed for cost-ac-

counting purposes. Two remedial measures are recommended: first, redesign of procedures and forms after critical review of the claim-management process; second, implementation of EDMS.

The apparent benefits that can be derived by concentrating on the most time-consuming, costly, and dispute-prone aspects of claims management identified by the research.

A major contributory factor to poor claims management is that many of the popular standard forms of contract fail to specify adequately scheduling requirements. This is complicated further by an apparent culture of parties contracting with information up their sleeves. The time has now come to consider seriously the desirability of requiring contractors disclose tender information usually in dispute, e.g., percentage of head-office overheads, profit margins, and schedule of preliminaries.

There is also concern that having adequate claims-management procedures is likely to add to project costs. If such costs are reflected in tenders there is the danger that the well-organized contractors will lose jobs to less organized ones. This suggests that project owners have a big role to play if controversy is to be taken out of claims. Having a well-organized claims management procedures should not be seen as evidence of an unhealthy "claims conscious" attitude. Rather, owners and their advisors should see the advantages in such transparent procedures and take account of this in their tendering procedures and decisions.

It must be emphasized that to ensure good practice there must be a commitment to make available the necessary human resources and comply fully with laid down procedures. This will require a change in management strategy linked to quality management systems that initiate remedial action on the basis of the monitoring of actual compliance with procedures.

APPENDIX. REFERENCES

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