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Conflict and dispute in construction

PETER FENN¹, DAVID LOWE¹, and CHRISTOPHER SPECK².

¹*Department of Building Engineering, UMIST, P.O.Box 88, Manchester M60 1QD, UK*

²*Barrister at Law, Manchester M3 7SF, UK*

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‘Conflict’ and ‘dispute’ are two distinct notions. The conceptual difference between the two is explored and further reviewed through the literature on conflict and dispute in the field of construction; a taxonomy for future study is also introduced. Conflict, it is proposed, exists wherever there is incompatibility of interest, and therefore is pandemic. Conflict can be managed, possibly to the extent of preventing a dispute resulting from the conflict. Dispute is associated with distinct justiciable issues. Disputes require resolution. This means that they can be managed: the process of dispute resolution lends itself to third party intervention. The construction industry and the chemical process industry in the UK are compared, through perceptions and experiences of conflict and disputes arising from their two sets of standard contract forms. The methodology is a review of published cases and a survey conducted among professionals with experience. The paucity of research in this field is discussed and the empirical work on the causes of conflict and dispute is reviewed. It is concluded that effective management of conflicts and disputes would be furthered by separating the two fields, and particularly by applying a more stringent structuring.

Keywords: Conflict, construction, chemical industry, dispute, standard contracts, taxonomy.

Introduction

Is there a difference between conflict and dispute? If so, should we concern ourselves with the difference? Some authors do not differentiate: Moore (1989) manages to mix the two terms in the first paragraph of his Chapter 1. Others point to conceptual differences, even if they are blurred (see Brown and Marriot (1993, p. 5), for a review)¹.

Schelling (1960) describes a field of research variously characterized as ‘theory of bargaining’, ‘theory of conflict’ or ‘theory of strategy’. He further argues that ‘theory of games’ is the most correct.

The theory of games allows a further split of conflict, and therefore of disputes, with researchers falling into two camps: (i) those who treat conflict and dispute as pathological states and seek to understand cause and treatment; and (ii) those who take conflict for granted and study the behaviour associated with it.

This paper seeks to explore a taxonomy of conflict and dispute, and then considers the cause and causation of conflict and dispute. To this end, the literature is reviewed and a taxonomy is presented for the study of conflict and dispute within the construction industry. Empirical studies of the causes of disputes also are discussed and a fresh analysis of the UK construction industry, when compared with another industry, is presented.

A taxonomy

The UK construction industry exists within an adversarial society. This observation is not intended as a criticism (although many present it as such, see below), but springs from the fact that it operates in a western dialectic “argument idiom” (De Bono, 1985). It follows from this that conflict is pandemic; it exists

where there is an incompatibility of interest. In this context, it is worth noting that conflict can be managed, possibly to the point of preventing it from leading to dispute. Disputes require resolution and therefore are associated with distinct justiciable issues. The resolution process may lend itself to third-party intervention.

Moore (1989) proposes a conflict continuum, ranging from conflict avoidance to violence, violence lying beyond any legislative decision. Parts of this continuum are used as the basis for a construction industry conflict continuum, shown in Fig. 1 (other parts, including Moore's violence, are beyond the scope of this paper).

The taxonomy proposed

Following the conflict continuum, the subject may be categorized further by the techniques used for managing the conflict, i.e. resolving the dispute. Thus a further split may be made between binding and non-binding processes used to manage the conflict or resolve the dispute. Figure 2 shows that, although dispute resolution includes binding and non-binding processes, conflict management is exclusively non-binding².

The taxonomy proposed allows researchers to consider whether their interest is (a) in conflict and its management, or (b) in disputes and their resolution. Incidentally, the taxonomy agrees with commentators who argue that conflict is an unavoidable fact of organizational life (see, e.g. Kolb (1992) or Lax and Sebenius (1986)).

Conflict has positive aspects to do with commercial risk-taking, the basis of free enterprise and competition. Disputes, on the other hand, afflict the industry. Disputes can be studied in an attempt to understand causes and treatment. It is therefore suggested that researchers and practitioners concern themselves with the difference between the two concepts, conflict and dispute.

Causes of conflict and disputes

The proposed taxonomy, plus the theory of games, puts this field of research firmly in the camp where

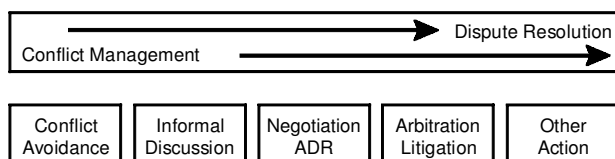


Figure 1 Conflict continuum (after Moore (1989))

Conflict management

Non-binding

Dispute review boards
Dispute review advisors
Negotiation
Quality matters
Total quality management
Co-ordinated project information
Quality assurance

Procurements systems

Dispute resolution

Non-binding

Conciliation
Executive tribunal
Mediation

Binding

Adjudication
Arbitration
Expert determination
Litigation
Negotiation

Figure 2 Proposed taxonomy

conflict and dispute are seen as pathological states whose causes and treatment are worth studying. What then of the causes of disputes? Is it possible to identify causal factors? If so, the construction industry's actors might seek to avoid or forestall them. In fact, conditions included in standard form contracts, and the ongoing development of such forms, draw on the study of disputes within the industry.

The literature offers much theorizing about the causes of disputes (see Harris (1988, p. 308) for a review). However, it seems that little empirical evidence has been structured to justify the theories presented. Conlin *et al.* (1996) differentiate between research that seeks to establish the magnitude of disputes (a top-down approach), and research that seeks to examine disputes at a detailed level (a bottom-up approach). Either way, the result is a list of events or triggers which show some correlation with the occurrence of the dispute.

Analysing construction projects *post factum* is difficult: did, for instance, a given dispute arise because one party was 'unreasonable' or because of differing interpretations, both of which were 'reasonable'? In any single project, different reasons for a particular dispute may be advanced, depending on who is asked. Is the issue a single dispute or are we confronted with two or more separate disputes? Is there both an unreasonable party and a variation? To cloud the issue further, could it be that the issue is one dispute with two causes?

Recent empirical work to set up a classification of sources and disputes, for construction specifically, has

been summarized by Kumaraswamy (1996). This has been added to, and a synopsis is provided in Table 1.

The literature on sources of disputes demonstrates the problem of terminology and causation. An examination of each piece of research shows that conditions of contract, in one guise or another, appear in each analysis. This confirms the work of Clegg (1992) who, from a sociologist's perspective, argued that contracts cause conflicts. This might intuitively be taken further: some contracts could cause more conflict than others.

An opportunity exists to test this because, in the UK, companies and professionals often work in two sectors: construction and chemical processing. These two sectors are in many ways similar: they share features often held to be unique (see Ball (1988, p. 23) for a review). These features are the physical nature of the product; the structure of the industry; the determinants of demand, and the method of price production.

The chemical process industry often uses standard forms drawn up within the construction industry, but it also has its own forms, different from those of the construction industry. The specific chemical processing industry forms are those produced by the Institution of Chemical Engineers (IChemE), viz. its 'Red Book' and its 'Green Book'.

Table 1 Literature and the sources of disputes

Research	Sources of disputes
Bristow and Vasilopoulous (1995)	Six areas: unrealistic expectations; contract documents; communications; lack of team spirit; and changes
Conlin <i>et al.</i> (1996)	Six areas: payment; performance; delay; negligence; quality; and administration
Diekmann <i>et al.</i> (1994)	Three areas: people; process; and product
Heath <i>et al.</i> (1994)	Seven areas: contract terms; payment; variations; time; nomination; renomination; and information
Hewit (1991)	Six areas: change of scope; change conditions; delay; disruption; acceleration; and termination
Kumaraswamy (1996)	Two areas: root causes; and proximate causes
Rhys Jones (1994)	10 areas: management; culture; communications; design; economics; tendering pressures; law; unrealistic expectations; contracts; and workmanship
Semple <i>et al.</i> (1994)	Four areas: acceleration; access; weather; and changes
Sykes (1996)	Two areas: misunderstandings; and unpredictability

Empirical study: a comparison between two industries

Received wisdom

The received wisdom is that the chemical process industry is less riddled with conflict and dispute than is the construction industry³. Both industries are, however, subject to disputes springing from conflict due to similar causes (such as late completion, quality not as desired, budgets not respected (Ball, 1988)). However, the IChemE's hypothesis was that chemical projects produce fewer disputes than do construction projects. In particular, the IChemE presumed, formal disputes are less common. This study aims at testing that hypothesis.

Methodology

This paper presents the results of a test of the hypothesis presented by the IChemE, namely 'chemical projects lead to fewer disputes than do construction projects'. The argument was tested initially by a survey of the cases reported, and investigated further by a study of the perceptions of construction professionals with experience in both the chemical process industry and the construction industry.

Review of cases

An initial survey of disputes settled by litigation in the Court of the Official Referee showed a paucity of chemical process industry cases in the Building Law Reports and Construction Law Reports, both of which report on such cases. There is some anecdotal evidence that currently litigation is reaching the courts where IChemE forms have been used; it will take some time before these are reported. Some observers hold that this arises from the many water industry projects carried out on IChemE forms following the privatization of the water industry in England and Wales.

Thus it might be said that the chemical process industry produces fewer litigated disputes than does the construction industry. This supports the received wisdom.

Investigation into perceptions of expectancy of disputes by contract types

Survey objectives. The aim of the survey was to investigate the perceptions of users of standard forms of contract in the construction industry and to test the perceived effect of particular standard forms of contract on the likelihood of disputes. The survey therefore queried whether, when compared with the traditional forms of construction contracts, the IChemE forms were perceived as having a lower expectancy of disputes.

Survey methodology. Following the review of reported cases, a large scale questionnaire survey was undertaken and distributed to 1200 construction professionals identified by classical random selection methods; all were users of both construction and chemical processing standard forms. The respondents were asked to rate forms of contract according to perceived expectancy of disputes by assessing this on a scale of 1 to 5, with 1 being minimal expectancy of disputes and 5 maximum expectancy. In total, 257 valid questionnaires were returned. The data generated from these were analysed using a statistical package for the social sciences, producing descriptive statistics. Tests for differences between responses also were undertaken, using the Wilcoxon matched-pairs signed rank test.

Results

The respondents' perceived expectancies of disputes with the IChemE Green Book and Red Book forms of contract were compared with the respondents' perception of the traditional forms of construction contract, Table 2 (which also gives the descriptive statistics). To make the table easy to read, the contracts are ranked in ascending order of expectancy of disputes based on their mean scores. As can be seen, apart from the JCT Minor Works Contract and The New Engineering Contract, the IChemE Green Book and Red Book forms of contract were perceived, by the respondents, as having the lowest expectancy of disputes.

The data were assessed for normality using the Lilliefors (Kolmogorov–Smirnov) test. This suggested that the data did not conform to normality; therefore the tests for differences were assessed by means of the Wilcoxon matched pairs signed rank test, a non-parametric test.

Table 2 Frequencies, percentages, medians, means and standard deviations for the expectancy of disputes by contract form (forms ranked in ascending order of mean)^a

Standard form of contract	<i>n</i>	1	2	3	4	5	Median	Mean (SD)
JCT minor works	137	36 26.3%	64 46.7%	26 19.0%	8 5.8%	3 2.2%	2.00	2.11 (0.94)
IChemE Green Book	61	15 24.6%	23 37.7%	18 29.5%	4 6.6%	1 1.6%	2.00	2.23 (0.96)
New engineering contract	70	9 12.9%	26 37.1%	20 28.6%	9 12.9%	6 8.6%	2.50	2.67 (1.13)
IChemE Red Book	61	8 13.1%	21 34.4%	18 29.5%	11 18.0%	3 4.9%	3.00	2.67 (1.08)
JCT 81 design and build	177	15 8.5%	69 39.0%	51 28.8%	35 19.8%	7 4.0%	3.00	2.72 (1.01)
JCT intermediate form of contract	147	9 6.1%	48 32.7%	69 46.9%	16 10.9%	5 3.4%	3.00	2.73 (0.87)
Nominated form of sub-contract	156	23 14.7%	44 28.2%	44 28.2%	33 21.2%	12 7.7%	3.00	2.79 (1.16)
ICE design and build form	103	11 10.7%	29 28.2%	33 32.0%	23 22.3%	7 6.8%	3.00	2.86 (1.09)
Domestic form of sub-contract	157	15 9.6%	34 21.7%	71 45.2%	26 16.6%	11 7.0%	3.00	2.90 (1.02)
JCT management form of contract	129	17 13.2%	32 24.8%	33 25.6%	32 24.8%	15 11.6%	3.00	2.97 (1.22)
ICE 6th (civil engineering form)	156	12 7.7%	35 22.4%	62 39.7%	32 20.5%	15 9.6%	3.00	3.02 (1.06)
JCT 80 (standard form of building contract)	189	13 6.9%	22 11.6%	99 52.4%	40 21.2%	15 7.9%	3.00	3.12 (0.96)
ICE 5th (civil engineering form)	166	10 6.0%	29 17.5%	75 42.5%	32 19.3%	20 12.0%	3.00	3.14 (1.04)
GC/Wks 1 (central government form)	164	12 7.3%	16 9.8%	65 39.6%	56 34.1%	15 9.1%	3.00	3.28 (1.01)
One off or bespoke form of contract	117	14 12.0%	12 10.3%	17 14.5%	35 29.9%	39 33.3%	4.00	3.62 (1.36)

^aBold = mode, SD = standard deviation, 1 = minimal expectancy of disputes, 2 = below average expectancy of disputes, 3 = average expectancy of disputes, 4 = above average expectancy of disputes, and 5 = maximum expectancy of disputes.

The results are presented in Table 3, which shows that, when the IChemE Green Book was compared to the JCT 80, ICE 5th Edition and GC/Works 1 forms of contract, the respondents' perception of expectancy of disputes was significantly greater than was the case with all three traditional construction contract forms (all differences significant at the 0.1% level). When the same three forms were tested against the IChemE Red Book form, the results revealed, again, that the respondents' perception of expected dispute was significantly greater with all three traditional forms of contract.

The IChemE Red Book was found to receive a significantly different appreciation from that given the JCT 80 form of contract (significant at the 5.0% level), a difference that became even greater when compared with the ICE 5th Edition form of contract (significant at the 1.0% level), and still more when compared with the GC/Works 1 form of contract (significant at the 0.1% level). These results therefore also support the stated hypothesis.

The perceived expectancies of disputes of the IChemE Green Book and Red Book forms of contract were also compared with the New Engineering Contract and with the JCT '81 Design and Build Contract. The results (see Table 3) reveal no significant differences in the respondents' perception of these forms of contract.

Conclusion

Disputes between parties to construction projects are of great concern to the industry; nevertheless, the subject is dominated by anecdote and hearsay.

The study of construction industry disputes, and the causes of those disputes, is essential. In fact, it would seem that effective management action can be taken only if based on reliable evidence. It may be worth noting that, while the adjudicative techniques used for dispute resolution are based on firm rules and laws of

evidence, the debate that surrounds construction industry disputes seems to require no such evidence.

At law, a party to a contract making claims for delay or expense or both is expected to prove its case. Commentators and researchers on construction disputes and conflict must expect to do the same. Factors causing construction industry disputes must be researched in a rigorously structured manner.

This paper presents evidence supporting the view that certain contracts may contribute to the frequency of disputes, and that therefore some contracts may cause more disputes than others. Similar research into other causal factors may allow the development of a predictive model, allowing the parties to be aware of, and perhaps avoid, factors which cause dispute.

Endnotes

¹The confusion appears to have arisen with the development of international conflict management strategies, an approach in which the term 'dispute' is used rarely.

²Of course a conflict management technique may be made binding by mutual agreement, in much the same way as non-binding mediation can be converted to a binding solution by agreement between the parties.

³The perception of the processing industry being affected by disputes is reflected in the lobbying that took place in the UK during the spring of 1996. The lobbyists' aim was to avoid the chemical process industry being subject to new legislation similar to that proposed for the construction industry, viz. the Housing Grants, Construction and Regeneration Act. The background was that the chemical process industry was perceived by many as sharing some of the construction industry's problems, and that the legislature might feel inclined to introduce comprehensive action to 'cure' these problems also within the processing industry.

Table 3 Tests for differences in the perceived expectancy of disputes between IChemE Green and Red Books and the major construction forms

Form of contract	<i>n</i>		IChemE Green Book	IChemE Red Book
New engineering contract	36	Z	-0.90	-1.21
JCT 81 design and build	41	Z	-1.35	-0.38
JCT 80	45	Z	-3.75 ^b	-1.79 ^c
ICE 5th Edition	57	Z	-4.33 ^b	-2.32 ^d
GC/Wks 1	48	Z	-4.44 ^b	-3.22 ^b

^aLilliefors (Kolmogorov-Smirnov) test for normality for all variables indicates that a non-parametric test is appropriate; Z = Wilcoxon matched pairs signed ranks test (one-tailed test).

^b $P \leq 0.001$.

^c $P \leq 0.05$.

^d $P \leq 0.01$.

The lobbyists argued – successfully – that while their industry shared some of the features ‘unique’ to the construction industry, the manifestation of the negative effects of these features in the construction industry was by no means apparent in the chemical process industry. Further, it was proposed that if there were, indeed, disputes within the processing industry also, the standard forms used on chemical projects could, in part, be responsible for this, and the Red Book and the Green Book could be amended, with no need for legislation.

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