Construction contract policy: do we mean what we say?

RESEARCH PAPERS

July 2002

Volume 4, Number 12

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Will Hughes
University of Reading, UK

Yasuyoshi Maeda
Penta Ocean Construction, Tokyo, Japan

Published by
RICS Foundation
12 Great George Street
London SW1P 3AD, UK

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The RICS Foundation Research Paper Series

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Will Hughes Department of Construction Management and Engineering, University of Reading, UK

Yasuyoshi Maeda Penta Ocean Construction, Tokyo, Japan

Abstract

Recent developments in contracting practice in the UK have built upon recommendations contained in high-profile reports, such as those by Latham and Egan. However, the *New Engineering Contract* (NEC), endorsed by Latham, is based upon principles of contract drafting that seem open to question. Any contract operates in the context of its legislative environment and current working practices. This report identifies eight contentious hypotheses in the literature on construction contracts and tests their validity in a sample survey that attracted 190 responses. The survey shows, among other things, that while partnership is a positive and useful idea, authoritative contract management is considered more effective and that "win-win" contracts, while desirable, are basically impractical.

Further, precision and fairness in contracts are not easy to achieve simultaneously. While participants should know what is in their contracts, they should not routinely resort to legal action; and standard-form contracts should not seek to be universally applicable. Fundamental changes to drafting policy should be undertaken within the context of current legal contract doctrine and with a sensitivity to the way that contracts are used in contemporary practice.

Attitudes to construction contracting may seem to be changing on the surface, but detailed analysis of what lies behind apparent agreement on new ways of working reveals that attitudes are changing much more slowly than they appear to be.

Please note that a copy of the questionnaire used in this study is available from the RICSFoundation upon request.

Contact

Will Hughes
Department of Construction Management & Engineering
University of Reading
PO Box 219
Reading
RG6 6AW
United Kingdom

T: +44 (0) 118 931 8201
F: +44 (0) 118 931 3856
E: W.P.Hughes@reading.ac.uk

Acknowledgements
The authors are very grateful to all those practitioners who took part in the survey and to the following colleagues who kindly commented on earlier drafts of this work: Sir Michael Latham of Willmott Dixon Ltd, David Greenwood of the University of Northumbria, Malcolm Dodds of Reading Construction Forum, Bob Kimber of Foster Wheeler Energy Ltd.

1

Introduction

In the UK, the *Latham Report* (1994) raised some interesting questions about how construction contracts should be drafted and carried some controversial implications for construction contract policy (Cox and Townsend 1997). Calls from major public sector bodies for innovative working practices and a reduced dependency on competitive tendering and adversarial contracting have increased since the *Latham Report*, with a succession of reports calling for changes to commercial practices in the construction industry. The *Levene Report* (Cabinet Office Efficiency Unit 1995) called for less conflict and disputes as well as a more sophisticated approach to procurement by government departments. The *Egan Report* (1998) suggested that contracts should be replaced entirely with performance measurements. Drawing upon these and a wide range of other recent reports on the industry, the National Audit Office (Bourn 2001) reinforces the message that the traditional reliance on lowest-price bidding and tendering separately for each stage of the project are wasteful exercises resulting in escalating costs and likelihood of expensive disputes. Clearly, there is a gathering momentum towards establishing new ways of working that change the basis upon which commercial processes are carried out in construction. The considerations underlying this seem to be welcomed by all as a positive move in the right direction.

There is no doubt that a drafting policy for construction contracts can have a significant potential impact on the profitability and outcome of construction projects, but although current trends in construction procurement should be applauded for encouraging a reassessment of contract policy, policy generally has only been considered with a view to solving specific problems, rather than to developing a coherent drafting policy (Uff 1988). The gathering tide of opinion towards these innovative methods of procurement raises interesting questions about the views of practitioners in the construction industry regarding contract policy.

Before considering these issues in more depth, it is interesting to note that a contrary view on procurement practice comes from the Far East. Although the Japanese construction industry has long encouraged mutual trust, also known as *psychological contracts* (Cole 1996), the Japanese government has shaped its policy to promote more rigid contractual relationships between parties in order to improve the efficiency of the construction processes (Ministry of Construction 1998). So, while early moves towards new ways of working in the UK appeared to be based upon Japanese practices (Bennett 1992), this is happening at a time when the Japanese industry is moving toward what might be called a “traditional” situation in the UK construction industry.

There is no doubt that Latham’s report has played a significant part in the industry in terms of igniting lively discussions about construction contracts. However, some commentators have criticised the report for being “anecdotally rather than empirically based” (Bick 1997) because the work was based upon a review of submitted evidence, rather than an academically-structured piece of research. This view has led to a number of arguments about Latham’s recommendations (see for example, Uff 1997b), especially about the legislation that has followed. Such arguments may indicate a difference between legal, academic and practical perceptions of the industry. From a research point of view, this raises the question of how, exactly, participants in the construction industry view the kind of policy that ought to underpin the drafting of construction contracts. Although there have been surveys in this area (for example, Barrick 1995, Gaitskell 1995), they tend to explore attitudes of people toward the general issues, rather than analysing in depth the consequences of innovative procurement practice.

Therefore, the purpose of this study is to:

1. Investigate the contract policy which underpins current innovations in procurement practice.
2. Relate recent contract policy developments to contract theory, derived from both the construction industry and general business transactions.
3. Explore the attitudes of people in the UK construction industry with respect to the extent to which they subscribe to the beliefs that underpin innovative working practices.

This study does not aim to explore the full range of issues relating to construction procurement, but just those aspects related to contract policy.

2

The *Latham Report* and contract policy

The *Latham Report*, entitled "Constructing the Team", was a product of a joint government and industry review of the construction industry (Jenkins 1995). In the foreword of the Report, Latham states that the prime aim of his review is to assist clients in executing high quality projects through better performance and fairness to all participants in the project, and he adds that teamwork is needed to achieve this aim (Latham 1994: v). By 1995, there was widespread awareness of the report, at least among clients of the construction industry (Barrick 1995). Subsequently, approaches to procurement practice have been developed in a way that fully endorses and puts into practice the themes introduced by Latham (Cabinet Office Efficiency Unit 1995, Bourn 2001).

Concerning contract policy issues, Latham proposes some basic principles of a modern construction contract. Moreover, he strongly criticises existing standard forms of contract and the means by which they are produced. Among his principles of modern contract conditions are; promoting a fair contract, encouraging teamwork through contracts, simplifying contract words and setting out clear management procedures (Latham 1994: 37). In addition to those proposals, Latham suggests that the *New Engineering Contract* contains almost all the elements of his proposals (Latham 1994: 39).

As regards other existing standard forms of contract, he comments that they do not help solve adversarial problems in the construction process (Latham 1994: vii) and the standard *Joint Contract Tribunal* (JCT) and *Institution of Civil Engineers* (ICE) forms are either heavily amended or are not used by clients and contractors (Latham 1994: 32). Moreover, Latham strongly recommends that those standard forms be altered in order to meet his principles for modern contracts (Latham 1994: 40). By 1998 all of the contract drafting bodies in the UK had completed revisions to their standard forms to take into account these suggestions and recent legislative changes.

As regards Latham's exhortation for a spirit of mutual trust and co-operation, embodying such philosophies into construction contract clauses provides something of a challenge in the light of contract policy. As already noted, these very principles have long been thought of as characteristic of Japanese construction contracts (Sidney 1990). For example, in the Japanese construction process, when variations occur, the contract states that the contractor may request negotiation (Omoto 1996). Although such a contractual clause gives the contractor an opportunity to negotiate, it can be said to be based upon a spirit of mutual trust and co-operation and fairness. Contractual matters, in Japanese practice, are often subject to the client's decisions and the contractors are very likely to be in a weaker position (Kunishima and Shoji 1995). This indicates that a spirit of mutual trust and co-operation may not always work well in construction practice.

Finally, Latham argued that legislation was necessary in order to get the construction industry to use contracts which conformed with his proposals (Latham 1994: 84). However, due to the failure of the industry and client groups to agree over the coverage of such legislation, the main aim of the legislation was limited to achieving security of payment.

3

Legislating for Latham's recommendations

One important point about Latham's report is the legislation required to implement his recommendations fully. In spite of controversies in the industry, some aspects have been enacted as *The Housing Grants, Construction and Regeneration Act 1996* (HGCR). Although there was little organised opposition, there were some individuals who had reservations about the prospect of further legislation (for example, Uff 1997a). According to McLellan (1995), the greatest opposition to legislation came from public clients, such as the Ministry of Defence and the Department of Trade and Industry. This is a very interesting observation because although Latham (1996) himself insists that satisfying clients must be the ultimate objective, and the prime aim of his report is to achieve client satisfaction, his recommendations seemed not be welcomed by all clients. However, it is now clear that the public sector is solidly behind the approaches to construction procurement that were suggested by Latham (Cabinet Office Efficiency Unit 1995, Bourn 2001). Within the industry, trade contractors have always been strong supporters of Latham's recommendations (Estates Gazette 1995, Klein 1995), particularly because of the provisions for payment protection. Indeed, there is growing enthusiasm from all sectors of the industry for these innovative working practices.

Some interesting arguments are introduced by Barrie (1995) about construction contract legislation. One of them is that what is needed is a culture change in the construction industry (a call commonly encountered in many contemporary reports about the industry) rather than legislation, and that the teamwork sought by Latham cannot be legislated for because it is a matter of trust, maintaining relationships and mutual understanding. However, as Latham pointed out in his report, the legislation was intended as a back-up to improved working practices, rather than a pre-requisite.

Among those who opposed legislation, Wallace (1997) felt that it could lead to a new protectionism in the industry. Uff (1997a) also warned against a rushed timetable for legislation. He counselled that the *Latham Report* itself was prepared in a very short period. He suggested that the legislation needed debate and consideration before it was implemented. Finally, Cox and Townsend (1997) insisted that Latham's report had several fundamental weaknesses because Latham could not solve "the root-cause" of the industry's problems. This weakness might be a cause of the dissatisfaction shown by some major parties in the construction process with the legislation arising from Latham's recommendations.

4

The *New Engineering Contract*

According to Eggleston (1996), the NEC is radically different from traditional standard forms of contract used in the UK. He reiterates the three main objectives in drafting the NEC:

- It should be more flexible in its scope than existing standard forms
- It should provide a greater stimulus to the good management of projects than existing forms
- It should be expressed more simply and clearly than existing forms (Eggleston 1996)

Armstrong (1991) comments that the NEC was a totally new type of standard form. He emphasises its flexibility and says that it can be applied to a range of projects much wider than those for which existing forms published by the Institution of Civil Engineers could be used. Rooke and Seymour (1995) state that the intention of drafting the NEC was to provide "a framework which will encourage collaboration and planning". Moreover, having been endorsed by Latham, the NEC may be described as a fully "Lathamised" contract (Cox and Thompson 1996). In spite of (or, perhaps, because of) such challenging departures from the existing forms, the three objectives mentioned above were not accepted by the industry without criticism. In an overview of the industry's responses to the NEC, Lewis (1996) states that the NEC is more favourable toward the client than the contractor because the client is more likely to feel protected by the NEC in settlement. Rooke and Seymour (1995) comment that the NEC is not welcomed by lawyers because they tend to view projects in terms of legal rights and duties, whereas the NEC attempts to emphasise task-oriented concerns rather than legal ones. Bowdery (1997) argues that the NEC, which is dependent on the common sense of participants, would be grossly unfair to contractors in terms of risk allocation, but this objection is not heard from contractors generally. Uff (1996) concludes that further experience would be needed in order to properly assess the NEC. The main controversy about the NEC could be summarised as a matter of contract policy, that is, whether construction contracts should be a manual for project management practice or an agenda for legal action, a question that seems to polarise opinions within the industry.

5

Contract policy generally

Contracts that do not provide some kind of recourse for damages for each party are "obligationally incomplete" (Ayres and Gertner 1992). If this theory applies to construction contracts, and there is no reason to suppose otherwise, the NEC's drafting intentions would produce an "obligationally incomplete" contract. One of the arguments opposing the use of contracts as management procedure manuals depends upon the notion of partnership. Helps (1997) comments on the concept of "good-faith obligations", stating that this is at the heart of Latham's recommendations. Such obligations are seen in continental jurisdictions and in English law such a principle is evident in consumer contracts, as well as in certain particular relationships. But, as Helps points out, there is not an underlying obligation in English law to act in good faith in all circumstances. He gives as an example, the fact that although the client must not prevent the contractor from carrying out the work as planned, the client is not contractually obliged to take positive steps to help the contractor achieve the completion date. This implies that the courts in the UK have already developed their own views about "good-faith obligations". All of this highlights that the concern that, when discussing contract policy, the uniqueness of the particular circumstances of the construction industry should be carefully examined.

6

Hypotheses underlying the questionnaire

The primary objective of this study is to explore the perceptions of people in the construction industry about construction contract policy, and to seek their views on Latham's recommendations for construction contracts. Therefore, this survey was constructed in terms of the contractual issues that derive from the *Latham Report*. In order to form a basis for the development of the questionnaire, hypotheses were developed for each issue. Each hypothesis is outlined below.

PARTNERSHIP, A SPIRIT OF MUTUAL TRUST AND COOPERATION

Latham, in recommending the use of NEC, suggests that the employer and the contractor should undertake a project in a spirit of mutual trust and co-operation. He strongly recommends that such a spirit should be embodied in the contract clauses (Latham 1994: 39) - this is a central theme of the report (Perry 1995). However, it is far from clear that partnership or a spirit of mutual trust and co-operation can be contractually assured. Matthews *et al* (1996) argue that partnering does not have to be contractual because it is about working within an open and honest team spirit rather than the letter of the law. Similarly, Heal (1999) argues that partnering is not a contract but a process or a management tool. As regards the efficiency of a spirit of mutual trust and co-operation, Broome (1995) reports that there is "some evidence" to suggest that a spirit of mutual trust and co-operation is encouraged and enhanced by using the NEC. However, Cox and Townsend (1997) hold the opposite view. They state that partnering is not suited to all circumstances, and they cite as examples projects where the costs outweigh the benefits of partnering or where clients might be exposed to the dangers of single-sourcing (Cox and Townsend 1997). Cornes (1996) also argues that in the NEC, the words "in a spirit of mutual trust and co-operation" have been adopted by the draftsman without detailed consideration of their legal effect.

As these discussions show, the practicality of ensuring a spirit of mutual trust and co-operation or partnership seems debatable. Thus, it is hypothesised that, *a spirit of mutual trust and co-operation cannot be contractually embodied.*

"WIN-WIN" CONTRACTS

According to Jenkins (1995), one aim of the *Latham Report* was to reduce conflict in litigation and to encourage productivity and competitiveness, and this aim is described as "seeking win-win solutions". What is "a win-win solution"? Wallace (1997) comments that the *Latham Report* makes no attempt to explain the reasons for the contractual provisions of a win-win solution, nor to explain precisely what the term means or what may be its practical or legal consequences.

Partnering is thought be a concept that encourages a win-win solution among a project's participants (Heal 1999). If so, a win-win solution also might need to be discussed with regards to its suitability to construction contracts, in a similar manner to the spirit of mutual trust and co-operation mentioned above.

In addition, it seems necessary to discuss whether or not the construction contract needs to be distinguished from other commercial contracts. Heal (1999) introduces the notion that construction contracts are not conceptually unique. Similarly, it is widely stated that the law of construction contracts is, in principle, the same as that applicable to contracts in general (May 1995, Murdoch and Hughes 2000). Wallace (1995) states that construction contracts are distinguished from other major commercial contracts in that construction products progressively and irretrievably become the property of the owner as the work proceeds. However, there seems no evidence in the light of contract law that construction contracts inherently demand win-win solutions. Therefore, it is hypothesised that, *a win-win solution is not practicable in construction contracts*.

AN AGENDA FOR LITIGATION

Cox and Townsend (1997) point out that if one of the intentions of the NEC is completely to avoid the courts, then any dispute or adversarial relationships would imply that the NEC has failed. Moreover, holding such an aim as a fundamental tenet of drafting may indicate that the NEC was drafted without considering the consequences for subsequent litigation. However, Cooter and Ulten (1988) comment on the definition of contract laws as follows:

> *The truth is that contract law's fundamental purpose is to enable people to achieve their private ends. In order to achieve our ends, our actions must have effects. Contract law gives legal effect to our actions. The enforcement of promises helps people to achieve their private ends by enabling them to rely upon each other and thus to coordinate their actions.*

This suggests that contracts with no direct provisions for legal actions can still be complete contracts. As regards construction contracts, however, Hughes and Greenwood (1996) argue that contracts should be drafted in a way that reflects the approach of the courts to contract doctrine and that contracts that disable litigation are counter-productive. They also state that attempting to avoid lawyers and litigation can in fact result in a greater dependence on lawyers and the court because of the complexities of ascertaining, in the absence of clear written agreements, who is liable for what, and to whom. They argue that such attitudes are the product of "nostalgia for a time when people conducted their deals on a handshake". Sweet (1991) points out that the complexity of the construction project requires many additional contract terms. This suggests a need for greater involvement of lawyers in construction projects than before. To test these ideas, it is hypothesised that *the threat of litigation is effective for improving the output of the construction process*.

FLEXIBILITY, CLARITY, PRECISION AND FAIRNESS

According to Perry (1995), flexibility and clarity are the principle objectives of drafting the NEC. Moreover, fairness is a vital theme of the *Latham Report*. As regards the flexibility of the NEC, Eggleston (1996) interprets it as an all-purpose contract for all construction and engineering disciplines at home and abroad. He also describes the distinct features of the NEC in terms of flexibility as follows;

- The NEC avoids discipline specific terminology and references to the practices of particular industries
- Responsibility for design is not fixed with either the employer or the contractor…
- [the NEC gives] a choice of pricing mechanism from lump sum to cost plus, and
- allow[s] the employer to build up the provisions in the contract to suit his individual policies (Eggleston 1996)

In a similar vein, regarding clarity, Barnes (1991) states that the NEC is written in ordinary language. Eggleston (1996) adds that it is written in non-legalistic language using short sentences and avoiding cross-references.

Broome defines clarity as follows:

> *the clauses within a contract fit together to form a logical whole, are procedurally correct and relevant to modern construction practice*
>
> **(Broome 1995)**

Comparing the definitions of flexibility and clarity raises the question of whether both of them can be achieved simultaneously. Hughes and Greenwood (1996) argue that it is difficult to reconcile those two factors, and point out that flexibility of standard forms of contract can create ambiguity, encouraging opportunistic behaviour by the parties.

As regards fairness, they point out an incompatibility with legal precision, stating that a contract clause which is 'fair' is usually vague in terms of precise liability (Hughes and Greenwood 1996). There is much room for discussion about flexibility, legal clarity or precision and the concept of fairness. Therefore, it is hypothesised that, *in drafting contracts, flexibility is not compatible with legal clarity and in drafting contracts, legal precision is not compatible with fairness*.

NON-ADVERSARIAL CONTRACTS

Adversarial relations among the parties to construction projects seem to be always discussed in relation to the necessity for partnering. Heal (1999) mentions that partnering moves beyond a narrow adversarial view of contractual interaction to an expressly co-operative approach. This brings in to question whether the adversarial culture of the industry is really a contractual matter at all, because partnering is generally thought to be a non-contractual matter. Barnes (1996) argues that the NEC is intended to be strongly "non-adversarial". If a "non-adversarial contract" is one which entails an avoidance of legal actions or exclusion of the threat of litigation, then there is a debate about whether it belongs in a discussion of legal matters. It is the case that a contract should not encourage adversarial attitudes among the participants (Uff and Capper 1989). However, there is a big contextual difference between adversarial contracts and adversarial relations. Lewis (1982) argues that the threat of litigation helps to prevent breaches of contract and gives businesses the confidence that some of their expectations will be protected by the court if necessary.

Similarly, Hughes and Greenwood (1996) warn against the arbitrary avoidance of lawyers and litigation, pointing out the perils involved with relying on "continuing good relations". Therefore, it is hypothesised that, *contracts need to be, to some extent, adversarial and interpretation of contracts should not rely too much upon continuing good relations throughout the life of a project*.

CONTRACTS SHOULD BE "LEFT IN THE DRAWER"

It has been said that in order to run projects successfully, contracts are best "left in the drawer" during the project (Gray and Flanagan 1989). Latham is sympathetic to this attitude, in that he says the contract exists to serve the construction process, not vice versa (Latham 1994: 36). In order to shed light on this matter, once again it is useful to consider the purpose of contract law. Beale and Dugdale (1975) suggest that contract law might be used by contracting parties to regulate their relationship and to plan what is to happen in the future; in other words, to set out the rights of the parties in the event of a breach of contract. No one would disagree that it would be better if the need to exercise such rights did not arise in the first place, but if Beale and Dugdale's argument is accepted, then the belief that contracts should be left in the drawer cannot be right because, without knowledge of the contract, planning for future events in the contract process could be extremely difficult. Hughes and Greenwood (1996) suggest that such an attitude is utter recklessness. Therefore, it is hypothesised that, *"contract documents should not be left in the drawer during the project"*.

MANAGEMENT PROCEDURES MANUAL

There seem to be two views on the purpose of a standard form of contract in the construction industry. One is that it should form a manual of project management procedures, and the other is that it should function as an agenda for litigation.

The NEC was drafted in accordance with the former view. It was drafted to stimulate good project management of contracts by the parties (Broome 1995, Cox and Thompson 1996). Eggleston (1996) also emphasises communications, co-operation and programming in the NEC.

The argument about which approach is the most effective way of satisfying a client's requirements should be closely examined in the light of concepts of contract law and of the construction industry's business context. It is hypothesised that, *a standard form of contract is a good way to provide a manual of project management*.

BESPOKE CONTRACTS

Latham argues that clients and contractors heavily amend or do not use the existing standard forms of contract (Latham 1994: 32) and strongly recommends that clients begin to use the NEC and to phase out "bespoke" contracts (Latham 1994: 42).

Barnes (1996) claims that NEC is flexible enough to suit every part of every construction or engineering project. However, not everyone shares this enthusiasm. First, Gaitskell (1997) argues that such an approach may reduce the choices open to those who take part in the construction process and should thus be criticised from the point of view of "freedom of contract". Second, Hughes and Greenwood (1996) state that although some amendments to standard forms are bad practice, others are clearly good practice. Third, there is a view that developing a universal standard form for use in any kind of project is unrealistic because of the tremendous variations of approach to the apportionment of risk in different projects (Murdoch and Hughes 2000). This leads to the eighth hypothesis: *Construction projects may need bespoke contract conditions*.

7

Survey design

The survey was divided into two parts: part one was concerned with the personal data of the respondents and their general views upon the *Latham Report*, and part two was concerned with the views of the respondents on particular issues. In part one, the respondents were asked to identify their professions, their business and the standard forms with which they were familiar. Subsequently this part of the survey also asked about their recognition of the *Latham Report* and familiarity with and attitudes toward the recommendations of the *Latham Report*. Part two of the survey consisted of 40 questions related to the hypotheses.

SAMPLING

The questionnaire forms were mailed to 869 people who mostly work in the UK construction industry, including public clients, private clients, consultants, main contractors and trade contractors. Table 1 provides an indication of the total potential distribution in the UK, the sample to which the questionnaire forms were sent, and the number of responses received. A total of 190 completed questionnaires were received, giving a response rate of 22%, which is high for surveys of this nature.

ROLE IN CONSTRUCTION PROJECT

Respondents were asked to place themselves in one of five categories. Some left this blank or ticked “other”, but the name of the business and job title of the respondent enabled all but three of the respondents to be categorised, as shown in Table 2. It is unfortunate that so few trade contractors are willing to take part in surveys of this nature, as they seem to be among those most affected by the issues that are under consideration. The three respondents who did not fall into clear categories were from educational, research and professional institutions. Since they could not be categorised, their responses are excluded from subsequent analyses.

Job title	Percentage
Client	22
Consultant	45
Main contractor	21
Trade contractor	10
Other	2
Total	100

Table 2: Job title of the respondent

(Other: Educational, Professional institute, Research)

The research survey was designed to test a number of hypotheses, among which was the idea that clients, consultants, main contractors and trade contractors would have distinctly different views. The next few sections show how the results are spread between each of these categories.

	Total possible	Sample	Returned
Public client	60	21	6
Private client	41,580	84	35
Consultant	103,422	215	88
Main contractor	202	72	39
Trade contractor	2,380	84	19
Other	Not applicable	40	3
Unknown*	Not applicable	353	Not applicable
Total	Not applicable	869	190

Table 1: Summary of sampling data

Sources

- Public clients and private clients - number of enterprises in 1998, Business Monitor PA1003 : Size analysis of UK Businesses 1998, Office for National Statistics
- Consultants - Sum total of figures from Royal Institution of British Architects (RIBA, www.architecture.com) (27,772), Royal Institution of Chartered Surveyors (RICS, www.rics.org.uk) (75,000) and Association of Consulting Engineers (ACE, www.acenet.co.uk) (650)
- Main contractors and trade contractors - 4,387 (total) minus 202 (general) and 1,805 (residential) - Hughes *et al* 1998: 148)

* Unknown - companies involved with construction activities, but whose precise involvement was unclear because they did not return a questionnaire

FAMILIARITY WITH STANDARD FORMS OF CONTRACT

Most respondents listed a variety of standard forms, generally including JCT (*Joint Contracts Tribunal*, London). A list of all contracts mentioned is shown in Table 3. Since the incidence of JCT forms is so significant, Table 4 groups responses in relation to whether respondents mentioned JCT or not, and those who were not familiar with any standard forms. Table 4 also shows how responses differ with the roles of respondents. Those who responded that they were familiar with "all standard forms of contract" or "most standard forms of contract" are counted under the category "including JCT". Table 4 shows that nearly three-quarters of clients and nearly all respondents in other roles are familiar with JCT. The data were tested for differences between the categories (chi-square test)[1]. In order for the statistical test to be meaningful, the categories of "client" and "consultant" were combined and, similarly, the categories of "main contractor" and "trade contractor" were combined. The chi-square test for two independent samples was then applied to test the difference between the combined categories. The result shows no significant difference between client/consultant and main contractor/trade contractor ($\rho = 0.199$). It would be interesting to study the way that different forms of contract influenced the perceptions of respondents, but almost none of the respondents have experience of only one approach to contracting. Therefore, the impact of a particular approach would be impossible to disentangle.

Acronym	Name of standard form	Frequency
BAA Trade Contract	British Airport Agency Trade Contract	1
CECA	Unknown	1
FCEC	Federation of Civil Engineering Contractors	1
JAC/90	Unknown	1
SEAC	Electrical Contractors' Association	1
Not applicable	World Bank & EC forms of contract	1
ACE	Association of Consulting Engineers	2
BPF	British Property Federation	2
ICE MW	Institute of Civil Engineers Minor Works Contract	2
IEC	International Electrotechnical Commission	2
Not applicable	Management Contract	2
Not applicable	Construction Management Forms	4
ACA	Association of Consulting Architects	5
Not applicable	No response	5
DOM	Domestic Sub-Contract of the Construction Confederation	6
Not applicable	None	7
Not applicable	Bespoke	10
I.Chem.E.	Institution of Chemical Engineers	10
IEE/I.Mech.E MF/1	Institution of Mechanical Engineers/Institute of Electrical Engineers Model Form	11
FIDIC	Fédération Internationale des Ingénieurs-Conseils	15
GC/Works	General Conditions of Contract for Building and Civil Engineering Works	23
JCT/MW	Joint Contracts Tribunal Minor Works Form of Contract	29
JCT/IFC	Joint Contracts Tribunal Intermediate Form of Building Contract	35
NEC	New Engineering Contract/Engineering and Construction Contract	40
ICE	Institute of Civil Engineers Conditions of Contract	45
JCT	Joint Contracts Tribunal Standard Form of Building Contract	161

Table 3: Standard forms of contract

Role	Included JCT	Excluded JCT	None	Total
Client	73% (30)	24% (10)	2% (1)	41
Consultant	93% (81)	6% (5)	1% (1)	87
Main contractor	87% (33)	5% (2)	8% (3)	38
Trade contractor	88% (14)	0% (0)	13% (2)	16
Total	87% (158)	9% (17)	4% (7)	182

Table 4: Categories of standard forms of contract

1. The chi-square test establishes whether there is any association between two categories, i.e. whether they tend to occur together. The significance of the relationship (r) is the probability that it could have occurred by chance. Lower values of r indicate higher statistical significance. In order for the chi-square test to be meaningful, there should be no zero or very small values in a table (Siegel 1988). The way to overcome this is to combine columns or rows, provided that the resulting combinations are sensible categories in their own right.

AWARENESS OF THE *LATHAM REPORT*

The respondents were asked about whether they had heard of the *Latham Report*. Almost all of them (98%) recognised it. The chi-square test for two independent samples was carried out to investigate the difference between combined categories, but there was no significant difference between categories (ρ = 0.588).

FAMILIARITY WITH THE RECOMMENDATIONS OF THE *LATHAM REPORT*

The respondents were asked about their familiarity with the recommendations of the *Latham Report*. Table 5 shows the results by category of respondent, excluding those who previously stated that they were not familiar with the report. This shows that of those familiar with the report, almost all the clients (95%), consultants (98%) and main contractors (97%) are familiar with the recommendations. However, there seems to be a slightly smaller number of trade contractors (83%) who are familiar with the recommendations, but the chi-square test for two independent samples did not reveal any significant difference between the combined categories (ρ = 0.147).

ATTITUDE TOWARD THE RECOMMENDATIONS

On the question of general attitudes toward the Latham recommendations, responses are shown in Table 6, which presents responses only from those who were familiar with the recommendations. This shows that almost all of those who are familiar with the recommendations agree with them. Moreover, half of them wholly agree with the recommendations. By combining the categories of "agree" and "partially agree", and ignoring the category of "don't know", the chi-square test for two independent samples was applied to see if there were differences between combined role categories, but the result did not show any significant difference between client/consultant and main contractor/trade contractor (ρ = 0.163), which is interesting in view of the differences between these groups in published opinions, where clients seemed a lot less enthusiastic than trade contractors.

Group	Familiar	Not familiar	No response	Total*
Client	95% (38)	3% (1)	3% (1)	40
Consultant	98% (85)	1% (1)	1% (1)	87
Main contractor	97% (38)	3% (1)	0% (0)	39
Trade contractor	83% (15)	17% (3)	0% (0)	18
Total	96% (176)	3% (6)	1% (2)	184

Table 5: Familiarity with the recommendations of the *Latham Report*

* Number of people recognising the *Latham Report*

Group	Wholly agree	Partially agree	Don't agree	Don't know	Total*
Client	53% (20)	47% (18)	0% (0)	0% (0)	38
Consultant	44% (37)	54% (46)	0% (0)	2% (2)	85
Main contractor	58% (22)	37% (14)	3% (1)	3% (1)	38
Trade contractor	67% (10)	27% (4)	7% (1)	0% (0)	15
Total	50% (90)	47% (84)	1% (2)	2% (3)	176

Table 6: Attitude towards the *Latham Report* recommendations

* Number of respondents *familiar* with the *Latham Report*'s recommendations

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Survey results for general contractual issues

The second part of the questionnaire consisted of 40 questions about general contractual issues. Each question relates to one of the eight hypotheses previously identified, although this was not revealed to respondents. The respondents were asked to tick one of six numbers closest to their own view, as follows: “strongly agree”, “agree”, “neither”, “disagree”, “strongly agree” or “don’t know”. A blank response was interpreted as “no response”, rather than “don’t know” and was excluded from the results. The response for each question is expressed by the frequency (%), which is obtained by dividing the number of responses for each category provided by the total number of effective respondents (190 minus the blanks). Although responses were sought across six levels of support for each statement, for the sake of analysis, these categories are combined into four as follows:

1. Agree = strongly agree + agree
2. Neither agree nor disagree
3. Disagree = strongly disagree + disagree
4. Don’t know.

This is because, in ranking an ordinal scale like this one, there is no significance in any distinction between “agree” and “strongly agree”, or between “disagree” and “strongly disagree” (Sappsford and Jupp 1996). While one individual may achieve some degree of consistency in distinguishing strong agreement from agreement, the way that different people use these categories is not sufficiently consistent for the analysis to rely upon them.

RESPONSES FOR EACH QUESTION

The responses for each question are summarised in Table 7. The questions are related to hypotheses as follows:

- **Question 1-6**

  Hypothesis 1: Partnership, spirit of mutual trust and co-operation
- **Question 7-11**

  Hypothesis 2: “Win-win” contract
- **Question 12-15**

  Hypothesis 3: An agenda for litigation
- **Question 16-21**

  Hypothesis 4: Flexibility, clarity, precision and fairness
- **Question 22-25**

  Hypothesis 5: Non-adversarial contract
- **Question 26-31**

  Hypothesis 6: “Left in the bottom drawer”
- **Question 32-35**

  Hypothesis 7: Amanagement procedures manual
- **Question 36-40**

  Hypothesis 8: Bespoke contracts

TOTAL SCORE

In order to express the degree of support for each hypothesis, a total score can be calculated by summing the numerical equivalent scores of all the responses within each hypothesis (5 = strongly agree, 4 = agree, 3 = neither, 2 = disagree, 1 = strongly disagree and 0 = don’t know) (Oppenheim 1992). The averaged total scores are obtained by dividing the total score for each hypothesis by the total number of effective responses for each question. Since the number of questions differs for each hypothesis, it is useful to express the degree of support for hypotheses as a percentage, calculated as follows;

$$\frac{\text{averaged total score - necessary minimum score}}{\text{maximum possible score - necessary minimum score}} \times 100$$

where the necessary minimum score is the number of questions and the maximum possible score is the number of questions multiplied by five.

The scores for questions 2, 3, 4, 20, 32, 34 and 35 need to be reversed as follows:

1 = strongly agree

2 = agree

3 = neither

4 = disagree

5 = strongly disagree

This is because a positive response to these questions means rejection of the related hypothesis. As mentioned in the footnotes to Table 7, the responses to question 6 had to be excluded because of a typing error.

No	Question	Response (%)			
		Agree	Neither	Disagree	Don't know
1	In drafting contracts, it is difficult to make explicit a spirit of partnership	73	8	18	1
2	Clauses about a spirit of partnership are indispensable	38	32	30	0
3	A clause making a spirit of partnership obligatory would improve project performance	36	30	35	0
4	Co-operation can be enforced by contracts	17	13	70	0
5	Contracts are more efficient when managed with strong authority	57	21	22	1
6*	Issues about trusts in contracts cannot be examined in a court	30	22	24	23
7	The prime objective of drafting contracts is to maximise clients' benefits	16	7	76	1
8	Construction contracts have a lot in common with other kinds of business transaction	35	17	45	2
9	It is not necessary for all the parties in a project to gain profits	13	6	80	0
10	It is not easy for all parties involved to be fairly protected from risks	54	10	36	0
11	Contracts that protect the interests of contractors may reduce the efficiency of their performance	31	15	52	1
12	The complexity of the modern construction process demands the involvement of lawyers	26	10	64	0
13	The threat of legal action encourages a contractor's good performance	13	13	74	0
14	The threat of legal action encourages a client's prompt and full payment	27	15	57	1
15	Contracts should provide mechanisms to protect the financial interests of the parties	91	7	2	0
16	Contracts should be precise in their wording	95	3	2	0
17	Absolute liability to one party may enable the other party to be unfair	75	10	13	2
18	Loose contractual terms encourage opportunistic behaviour	76	13	11	1
19	Contracts should apportion risks fairly between the parties	89	4	6	1
20	Fairness does not necessarily require precision in contractual obligations	45	16	37	2
21	Fair-mindedness compromises efficiency	4	7	87	1
22	Strictness of interpretation of contracts enables swift decisions	43	24	32	1
23	Punitive clauses are essential in order to protect the interests of the parties	21	19	60	1
24	Contracts which rely on trust are ambiguous	45	19	35	1
25	Contractual disputes are an efficient way to resolve conflict	7	7	85	1
26	Each party should understand its precise contractual obligations before commencing work on the project	98	1	1	0
27	Each party should constantly compare what actually happens with what the contract states	41	24	36	0
28	Each party needs a detailed understanding of contract law	38	23	38	1
29	Good understanding of contractual matters contributes to client satisfaction	62	19	19	1
30	Good understanding of contractual matters may help the parties to reduce financial losses caused by unpredictable risks	78	12	9	0
31	Pre-planning for all eventualities of the construction process is vital	78	13	9	0
32	Standard forms of contract should help to explain to clients what they should do if they are dissatisfied with the work of the contractor	80	14	6	0
33	Contractual obligations should prescribe the behaviour of the parties	62	21	15	2
34	Contracts should make clear the requirements for parties to notify each other of events that might influence the fulfilment of their obligations	93	4	2	1
35	Contracts terms should be clear about the consequences of non-conformance	96	3	1	0
36	It is not possible to produce a single standard form of contract suited to all types of construction project	72	11	17	1
37	Standard forms of contract tend to be maliciously amended when one party has more economic power than the other	70	13	14	3
38	Clients prefer their own bespoke contracts	41	26	28	5
39	Standard forms of contract are likely to be interpreted ambiguously	24	17	57	2
40	Good contracts are project-specific	45	20	34	1

Table 7: Summary of responses

* Due to a typographical error, this question cannot be relied upon. "Trusts" has a very different meaning from "trust". There is no way of ascertaining how the respondents interpreted this, so the results for this question were not used for subsequent analysis.

NOTE: Because of the way that the questions are phrased, scores for questions 2, 3, 4, 20, 32, 34 and 35 had to be reversed for obtaining the total scores and for consistency analysis.

Questions 12 and 15 were excluded from the calculation of the total score for hypothesis 3, and questions 16, 19 and 21 were excluded from the calculation for the total score for hypothesis 4 because those questions were not designed to test the hypotheses in this strictly mathematical way. The summary of the averaged total scores for each hypothesis is shown in Table 8.

CONSISTENCY ANALYSIS

Further investigation was carried out to test the consistency of the responses between the questions within each hypothesis. To test for consistency, the 'Sign Test'was applied. The Sign Test can be applied to two related samples when the analyst wishes to establish that two conditions are different (Siegel 1988). The Sign Test was particularly useful if the measurement scale is only ordinal (Daniel 1978), as it is here. Therefore, the Sign Test was used here to test the consistency of the responses between two questions that equivalently examine the attitudes of respondents toward a particular hypothesis. The null hypothesis is that there is no difference in the responses between two questions that ask about the respondents'views on a particular subject and the alternative hypothesis is that there is a difference. In order to keep the test simple, the original scoring of responses was re-arranged as follows:

5 = strongly agree + agree

3 = neither

1 = disagree + strongly disagree.

As before, the scores for questions 2, 3, 4, 20, 32, 34 and 35 were reversed. Responses such as "no response" and "don't know" for either question were excluded from testing.

Box 1: Statistical results for hypothesis 1

Consistency analysis was undertaken first for the responses to questions 1 and 4, which test the perception of respondents about the difficulty of embodying a spirit of partnership and co-operation in a contract. According to the Sign test, the distributions of responses show consistency ($\rho = 0.377$). Nearly 70% of the respondents support the hypothesis.

The consistency analysis for questions 2, 3 and 5, collects together questions that were aimed at investigating the perception of respondents about contract clauses in terms of a spirit of partnership. Question 2 and 3 show significantly similar distributions ($\rho = 0.302$). Both results indicate neutral attitudes toward the effectiveness of a spirit of partnership for the construction process. However, the results from Question 5 are inconsistent with the results from Questions 2 and 3. Both ρ values obtained by the Sign test are less than 0.0001.

HYPOTHESIS 1: A SPIRIT OF MUTUAL TRUST AND CO-OPERATION CANNOT BE CONTRACTUALLY EMBODIED

Generally, although Latham's Report strongly recommends that contracts should be based upon partnership, a spirit of mutual trust and co-operation, these results reveal that respondents would find difficulty accepting that this can actually be done. Not only did most respondents feel that it would be difficult to make explicit a spirit of partnership (question 1) or to contractually oblige the parties to co-operate (question 4), but also these results reveal that there is not strong support for either of these ideas (question 2). Moreover, respondents are fairly evenly divided on the matter of whether a spirit of partnership might make a contribution to the efficiency of project performance (question 3). Interestingly, quite a few people felt that contracts were more efficient when managed authoritatively (question 5). This does not sit well with the ideas of mutual trust and co-operation.

Hypothesis	Questions	Averaged total score	Percentage
1	1, 2, 3, 4, 5	17	58
2	7, 8, 9, 10, 11	13	38
3	13, 14	5	34
4	17, 18, 20	10	62
5	22, 23, 24, 25	10	39
6	26, 27, 28, 29, 30, 31	22	65
7	32, 33, 34, 35	9	33
8	36, 37, 38, 39, 40	16	56

Table 8: Summary of averaged total scores

Box 2: Statistical results for hypothesis 2

Consistency analysis was applied to questions 7 and 9, which were designed to explore perceptions about objectives of construction contracts. Both sets of responses show significant consistency ($\rho = 0.232$). They indicate that most respondents felt that contracts should be drafted not only for clients but also for all other parties to gain profits. On the other hand, the result of question 10 gives a different pattern from question 7 ($\rho < 0.0001$) and 9 ($\rho < 0.0001$). The result of question 10 suggests that it is difficult to protect all parties from risks. The aim of questions 8 and 11 was to examine the acceptability of "win-win" contracts among the respondents. Both results show significant consistency ($\rho = 0.248$). This may infer that some people feel that the business environment of the construction industry is conducive to "win-win" contracts and such contracts would not harm the efficiency of contractors'performance.

The inconsistency between views on partnership and the view on authoritative approach indicates that respondents are not fully convinced about relying on a spirit of partnership. The averaged total score of 17 (58%) for this hypothesis suggests that it is only mildly supported (Table 8 and Box 1).

HYPOTHESIS 2: A "WIN-WIN" SOLUTION IS NOT PRACTICAL

According to the results, a "win-win" solution is not perceived as an impractical aim in construction contracts. Respondents feel that the prime objective of contracts is not only to achieve clients'satisfaction (question 7) but also to ensure profit for all the parties involved (question 9). At the same time, more than half of the respondents feel it is difficult to protect all parties from project risks (question 10). It is interesting, in the light of contract law, that although the contractual environment of the construction industry is not much different from that of others kind of business, most people felt that construction contracts had little in common with other kinds of contract, such as the contracts in which they engage outside of the construction supply chain, whether as buyers or sellers (question 8). Although nearly half the respondents feel that contractual protection of the interests of contractors would not harm the efficiency of their performance, nearly one third of respondents thought it might (question 11). Generally, the averaged total score of 13 (38%) reveals a strong rejection of the hypothesis (from Table 8 and Box 2).

It is interesting to note that although the above results infer that "win-win" contracts might be acceptable in the industry, some respondents feel that risks might be unfairly borne by one party, as the result for question 10 indicates.

HYPOTHESIS 3: THE THREAT OF LITIGATION CAN IMPROVE THE OUTPUT OF THE CONSTRUCTION PROCESS

These results reveal various views about the legal context of contracts. Although modern construction processes are increasingly complex, most people do not wish to rely on lawyers in order to deal with the complexities (question 12). This may infer that respondents feel that the complexity of the construction process should not automatically lead to contractual complexities. Moreover, more than half of the respondents do not feel that the threat of legal action will help to ensure good performance on the part of the contractor (question 13). However, the proportion of respondents who agreed with the effectiveness of the threat of legal action over the clients'performance (question 14) was slightly more than over the contractors'one (question 13). It is interesting to note that almost all the respondents expect contracts to provide mechanisms to protect the financial interests of the parties (question 15), even though most disagree that the threat of legal action is effective. The average of the total score of 5 (34%) infers that there is mild rejection of this hypothesis by the respondents.

The comparison between those questions in Box 3 may infer that the respondents feel more strongly the ineffectiveness of the threat of legal action toward contractor's performances than toward clients'prompt payment.

HYPOTHESIS 4: INCOMPATIBILITY OF FLEXIBILITY, CLARITY, PRECISION AND FAIRNESS

These results show that the respondents favour clarity and flexibility of contracts over fairness. The result of question 16 reveals that almost all the respondents wish for precise wordings in contracts. Similarly, the results of questions 19 and 21 show that fair-mindedness is largely supported by the respondents in terms of risk allocation and as a catalyst for efficient progress of the project.

Box 3: Statistical results for hypothesis 3

Comparing the results for questions 12 and 15, even though the result of question 12 indicates that the involvement of lawyers in the construction process is not preferred by the respondents, some mechanisms to protect the financial interests of the participants are demanded by almost all the respondents ($\rho < 0.0001$). The results of question 13 and 14 give a significant inconsistency in the responses toward the hypothesis ($\rho < 0.0001$).

This tendency might contradict the result of question 5, which reveals that more than half of the respondents feel that strong authority results in efficient contractual performance. The result of question 17 may infer that most respondents feel that precision of contract wording is not compatible with fairness. Similarly, the result of question 18 may mean that flexibility of contractual terms would result in opportunistic behaviour by the other contracting parties. This tendency is reinforced by the result of question 20 which shows that a slight majority feels that fairness is incompatible with precision in contractual obligations.

The results shown in Box 4 can be summarized as follows:

Although legal clarity is thought necessary in contracts, flexibility is not compatible with it.

Similarly, fairness seems to be widely accepted but legal precision is not compatible with it. This is shown in the result of the total score for this hypothesis of 10 (62%), which includes the scores for questions 16, 19 and 21 as mentioned above.

HYPOTHESIS 5: CONTRACTS SHOULD BE ADVERSARIAL AND NOT RELY ON GOOD RELATIONS

Although quite a few respondents felt strict interpretation of contracts helped with efficient decision-making (question 22), most disagreed that contracts needed to contain punitive clauses, even if the purpose of those clauses was to protect the interests of the parties (question 23). However, there are doubts about the clarity of contracts which rely on trust (question 24).

Box 4: Statistical results for hypothesis 4

Questions 16, 19 and 21 focused on attitudes toward precision and fairness. The results of question 19 and 21 give a significant consistency of responses ($\rho = 1.000$), and they may infer that fairness is supported by most respondents. However, the comparisons between the results of question 16 and 19, and between those of question 16 and 21 give no significant consistency. The ρ-values obtained by those comparisons are 0.034 and 0.020 respectively. Questions 17, 18 and 20 are directly associated with the hypothesis. While the results of question 17 and 18 gave a very similar distribution of the responses ($\rho = 0.732$), which would strongly support the hypothesis, the result of question 20 is inconsistent with them. Both ρ-values for the comparisons between question 17 and 20 and between 18 and 20 are less than 0.0001.

Box 5: Statistical results for hypothesis 5

The responses to questions 22 and 24 give a significant consistency ($\rho = 0.846$). Both results show similar trends in that perceptions are slightly in favour of strictly interpreting contracts. However, in the responses to the bald statement in question 23, a different attitude emerges. Both ρ-values (question 22 vs question 23 and question 24 vs question 23) are less than 0.0001. Although about 45% of the respondents expect contracts to be strictly interpreted without relying on trust between the parties (question 24), 60% of them prefer not to have punitive clauses in contracts (question 23). The results of questions 23 and 25 both show that most people are averse to adversarial clauses in contracts. Indeed, the Sign test indicates that people seem to be particularly averse to contractual disputes ($\rho < 0.0001$).

Most respondents do not see contractual disputes as an efficient way to resolve conflict (question 25), although they could be one of the mechanisms to protect their interests in the project. The average of the total score of 10 (39%) and the results in Box 5 indicate that the responses do not support the hypothesis.

HYPOTHESIS 6: CONTRACT DOCUMENTS SHOULD NOT BE "LEFT IN THE BOTTOM DRAWER"

There is a clear message from the respondents that contracts should be carefully understood from the outset of a project (question 26). Despite this, less people feel that they should compare what they understood with what actually happens during the project (question 27).

Box 6: Statistical results for hypothesis 6

The results of questions 27 and 28 show a significantly similar distribution of the responses ($\rho = 0.689$). Both distributions of responses may indicate the neutral views of the respondents with regard to this hypothesis. Interestingly, the distributions of responses to questions 30 and 31 are also almost the same. The Sign test shows that there is significant consistency between the results ($\rho = 0.900$) and both indicate that 78% of the respondents support the hypothesis. Compared to the results for questions 30 and 31, the result of question 26 shows a very different and much stronger view. The ρ-values obtained for both comparisons are less than 0.0001. On the other hand, the Sign test indicates that the idea behind question 29 is less strongly supported than those behind questions 30 and 31. The inconsistencies in the responses to questions 27 and 28 on the one hand, and those to questions 30 and 31 on the other, are demonstrated by the Sign test. Both ρ-values between questions 27 and 30 and between 27 and 31 are less than 0.0001. Similarly, both ρ-values between question 28 and 30 and between 28 and 31 are also less than 0.0001.

Overall, it may be concluded that the attitude of "the contract should be left in the bottom drawer" is not supported by the respondents. The average of the total score of 22 (65%) also indicates that the hypothesis is supported by the respondents. The inconsistencies revealed by the analysis in Box 6 are striking.

HYPOTHESIS 7: A STANDARD FORM OF CONTRACT IS A GOOD MEANS FOR PROVIDING GUIDANCE FOR PROJECT MANAGEMENT

There is a strong evidence that most respondents expect contracts to provide guidance for litigation (question 32), rather than for management procedures, although the prescription of the behaviour of the parties is not as popular as other aspects of contractual obligations and duties (question 33). These results seem to contradict the results for hypothesis 5. This suggests that although people do not want adversarial contracts as long as there is no need for them (hypothesis 5), they actually want punitive clauses to protect themselves when their interests are threatened (questions 32 and 35).

Question 27 (hypothesis 6) has results which appear to contradict other views of the respondents. If, as these results reveal, people do not feel it is necessary to compare what actually happens with specific contract clauses, it brings into question the practice of including in contracts clauses that might help one party to deal with the failure or poor performance of other party. However, on the whole, the hypothesis is not supported by the respondents as indicated by the average total score of 9 (33%).

The lack of consistency in responses regarding this hypothesis (see Box 7) seems to arise from the extent to which contracts can be called upon to deal with the way that people behave.

Box 7: Statistical results for hypothesis 7

The results of questions 34 and 35 both indicate a clear rejection of the hypothesis. The Sign test shows significant consistency between the results ($\rho = 0.317$). Although the result of question 32 also seems to confirm this, the Sign test did not reveal any significant consistency between the results of questions 32 and 34 ($\rho = 0.0001$) or questions 32 and 35 ($\rho < 0.0001$). The results for question 33 indicate an opposite view, by comparison with results from other questions. The Sign test also reveals inconsistency between the results for question 33 and those for questions 34 and 35 respectively. Both ρ-values obtained by the comparisons are less than 0.0001.

Box 8: Statistical results for hypothesis 8

The results of questions 36 and 37 show similar distributions of responses which may give strong support for the hypothesis ($\rho = 0.912$). On the other hand, the results of questions 38 and 40 also show similar distributions of responses ($\rho = 0.366$), which do not strongly support the hypothesis. Moreover, the results of question 39 reveal an opposite view to the results of question 36 ($\rho < 0.0001$) and 37 ($\rho < 0.0001$). This may infer that the hypothesis is not be supported by the respondents.

While there is clear support for the idea of clear contractual obligations, there is not such strong support for the idea of prescribing behaviour. Therefore, it is clear that the respondents tend to favour the view of contracts as a legal, rather than a management instrument.

HYPOTHESIS 8: CONSTRUCTION PROJECTS NEED BESPOKE CONTRACTS

These results are interesting in the light of the general preference in the construction industry for standard forms of contract. Most respondents agreed that there is no single standard form of contract which can cope with all types of construction. Clearly, any reduction in the choice between standard construction contracts will not be welcomed.

Bespoke, or project-specific contracts were not strongly supported by the respondents (questions 38 and 40). This may infer that people still feel some advantages or effectiveness of using standard forms of contract. However, there is no evidence in this survey that people wish to phase out bespoke contracts. The average of the total score of 16 (56%) also indicates that the hypothesis is mildly supported by the respondents. The inconsistency highlighted in Box 8 can only be interpreted by saying that although most respondents see disadvantages in standard forms of contract, bespoke contracts are not seen as a viable alternative.

9

Comparison of perceptions according to the roles of respondents and their familiarity with standard forms of contract

The responses obtained were split according to the role of respondents - “clients”, “consultants”, “main contractors” and “trade contractors”. This is because construction contract problems need to be approached with an awareness of the diversity of the professions, specialists and suppliers involved (as identified by Murdoch and Hughes 1996: 2). The responses were also split according to respondents’familiarity with standard forms of contract: “JCT” and “Not JCT”, to examine whether there were systematic differences of opinion attributable to different sectors of the industry. Different “world views” in the construction industry are likely to be affected by issues such as “professional culture”, “legal culture” or “claims culture” (Rooke and Seymour 1995). Moreover, as one institution that was singled out for criticism by Latham (1994: 41), it seems important to examine the survey results with specific reference to JCT contracts.

In order to statistically examine the trends in responses, the Kolmogorov-Smirov two-sample test (‘the KS Test’) was applied to each question. The KS Test is considered one of the most powerful tests of whether two independent samples have been drawn from the same population (Siegel 1988). In addition, it is sensitive to differences of all types that may exist between two independent samples (Daniel 1978). In this analysis, the one-tailed KS Test is applied in order to decide whether the data value of one sample group is larger (or smaller) than that of another group.

In addition to the results obtained by the KS Test, two statistical numbers such as mean and median are calculated so as to represent the distribution of the response for each categorised group. Although the data analysis for each question discussed in the previous section is based upon the four categories of the response such as “agree”, “neither”, “disagree” and “don’t know”, the statistical analysis of differences between groups was carried out using five categories: 1, 2, 3, 4,and 5, which numerically express the attitudes of the respondents. The summary of the KS Test and values of mean and median for each comparison mentioned above are shown in Maeda (1999). While there are some statistically significant differences between the groups, none is of sufficient magnitude to warrant detailed commentary at the level of individual questions here.

COMPARISON OF THE DEGREE OF SUPPORT FOR HYPOTHESES WITHIN THE ROLES OF THE RESPONDENTS

In order to examine the attitudes of each role group toward the hypotheses outlined in section 6, the data were examined according to the roles of the respondents. The results are summarised in Table 9. The scores of each role group indicated in the table are averaged figures within each group.

Further, in order to examine attitudinal differences between role groups, the t-test was applied for each hypothesis. The aim of the one-tailed t-test is not only to test the difference between the mean averages of two populations, but also the direction of this difference. Use of the t-test assumes that the standard deviations of the two populations are equal. This assumption can be tested using the f-test (Rees 1995). When the f-test rejects the equality of the standard deviations of two populations (the p-value is less than 0.05), Welch’s modified t-test should be applied in order to test the difference in the means of such two populations. All the results of the f-test and t-test between the roles for each hypothesis are shown in Maeda (1999) with only the salient findings reported here.

	Clients	Consultants	Main contractors	Trade contractors	All respondents
Hypothesis 1	16.3 (56%)	16.8 (59%)	16.8 (59%)	16.4 (57%)	16.6 (58%)
Hypothesis 2	13.0 (37%)	12.9 (36%)	12.2 (33%)	11.9 (31%)	12.7 (38%)
Hypothesis 3	5.0 (38%)	4.9(36%)	4.3 (28%)	4.3 (28%)	4.7 (34%)
Hypothesis 4	10.3 (61%)	10.4 (62%)	10.5 (62%)	10.7 (64%)	10.4 (62%)
Hypothesis 5	10.4 (40%)	10.6 (41%)	9.7 (35%)	9.4(34%)	10.3 (39%)
Hypothesis 6	21.1 (63%)	21.5 (65%)	22.6 (69%)	21.9 (66%)	21.7 (65%)
Hypothesis 7	8.8(30%)	9.4 (34%)	9.1 (32%)	9.2 (33%)	9.2 (33%)
Hypothesis 8	16.3 (56%)	15.7 (54%)	16.5 (58%)	16.4 (57%)	16.1 (56%)

Table 9: Average of total scores for the hypotheses

In hypothesis 3, the t-test shows significant differences between clients and main contractors (p = 0.012), between clients and trade contractors (p = 0.027) and between consultants and main contractors (p = 0.034). Therefore, it can be said that main contractors (28%) and trade contractors (28%) disagree with this hypothesis more strongly than clients (38%) or consultants (36%).

In hypothesis 5, the t-test shows significant differences between consultants and main contractors (p = 0.034), and between consultants and trade contractors (p = 0.028). Since the score of consultants (41%) is slightly higher than main contractors (35%) and trade contractors (34%), it follows that the attitude of clients is closer to neutral than those of main contractors and trade contractors.

In hypothesis 6, the t-test shows significant differences between clients and main contractors (ρ = 0.012), and between consultants and main contractors (ρ = 0.039). Since the score for main contractors (69%) is slightly higher than that for clients (63%) and consultants (65%), it follows that main contractors have more favourable views towards this hypothesis than do clients and consultants.

In hypothesis 7, the t-test shows significant differences between clients and consultants (p = 0.012). This may mean that clients (30%) are more averse to this hypothesis than consultants (34%).

No significant difference is shown by the t-test for any of the other hypotheses.

10

Conclusions

The results about the use or development of a single standard-form contract do not support Latham's recommendations, which counsel clients to use more standardised forms of contract. Interestingly, Banwell's (1964) similar findings in favour of the development of a single standard form contract for use in the building and civil engineering industries has resonance with Latham's suggestion, but seems to have been followed by a proliferation of different standard forms, rather than a focus upon one.

The survey generated 190 responses, of which 187 could be used in the analysis. A very wide range of standard forms of contract is currently in use. Most respondents recognised the *Latham Report*. Of those who have heard of it, most are aware of Latham's recommendations. Of those who are familiar with the recommendations, nearly all respondents say that they agree with them when asked for an overall reaction. However, respondents are equivocal about the notion of basing contracts on a spirit of mutual trust and co-operation. Not only was there a neutral response to the idea that a spirit of partnership would improve project performance, but there was also a clear sentiment that authoritative contract management would improve performance, contrary to the underlying message embodied in current moves towards innovative working practices.

The development of "win-win" contracts is perceived as a desirable, but impractical aim. Nearly one third of respondents felt that performance would be compromised if contractors were better protected by contracts. Most respondents do not wish to rely upon lawyers - indeed, most feel that the threat of legal action will not improve the performance of those with whom they contract. However, almost all respondents expect contracts to provide the means to protect their financial interests.

While there is very strong support for precision and fairness in contracts, there is not agreement that the two can go together. Most people feel that loose terms encourage opportunism and that contracts should apportion risks fairly between the parties. Respondents were generally not in favour of strict interpretation of contracts, nor of punitive clauses. However, there is a greater acceptance of strict, though not punitive, interpretation.

Although ambiguity may accompany contracts that rely on trust, most people feel that contractual disputes are not an efficient means of dispute resolution.

The results also suggest that those within the construction industry feel that contracts should not be "left in the bottom drawer". There was almost unanimous support for the idea that each party should understand its contractual obligations before commencing work on a project. However, there was less support for comparing what happens to what the contract says or for parties to have a better understanding of contract law. There is general support for "hard" rather than "soft" contracts in that the respondents feel that contracts should:

- provide recourse for dissatisfied clients
- prescribe parties' behaviour
- require parties to keep each other informed
- be clear about the consequences of non-conformance

The survey respondents felt that, on the whole, standard-form contracts should not seek to be appropriate for all types of project and that unequal bargaining power between the parties may lead the more powerful to introduce malicious amendments to standard forms. While respondents saw that standard forms have disadvantages, they did not seem to consider bespoke contracts to be any better.

This survey indicates that the significant changes that have been made to contract drafting policy in the UK seem not to have recognised the complex tensions that are inherent in the business of contracting. On the face of it, most people seem to agree with the sentiments embodied in innovative working practices. What is worrying is that, when these issues are disentangled, many of these same people actually disagree at a fundamental level with the principles upon which such practices are based. Therefore, current efforts to change attitudes and the culture of the industry need to be aimed not just at getting agreement on broad policy statements, but at dealing with perceptions at a much more detailed level.

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