

How Relational are Construction Contracts?

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Abstract: For many years, the construction industry has relied on formal contracts to define and enforce the obligations and rights of contracting parties. Legal scholars have suggested that, based on their transaction characteristics, there are three different forms of contracts: classical, neoclassical, and relational. Of these, which form is more appropriate for use in construction projects? With increasing awareness of the importance of teamwork in construction, there is clear evidence of a rising trend in adopting a partnering approach to construction project delivery. For projects that seek to achieve a partnering relationship, relational contracts that value relationships, trust, and communication appear to be the appropriate form of contract. This paper discusses the application of relational contracts in construction by examining the fundamental question "How relational are construction contracts?" The degree of relationalism is assessed using a relational index comprising eight factors: cooperation, organizational culture, risk, trust, good faith, flexibility, the use of alternative dispute resolution, and contract duration. It was found that in the traditional design–bid–build form of delivery, the main contract and domestic subcontract forms are more relational than those of the nominated subcontract and the direct labor contract. The study was conducted in Hong Kong.

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Introduction

In the 1970s, the construction industry was highly affected by both domestic and global factors such as the high inflation rate and the oil embargoes. At the time, a number of innovative business strategies were initiated by construction practitioners in order to embrace the new challenges. The economic downturn in the past few years in Hong Kong has also brought intense competition into every corner of the construction industry. Hence, there is a growing need for effective business decisions, plant modernization, regulations amendment, and the introduction of new technologies. With a rise in the level of collaboration within the supply chain, the use of traditional building contracts may not be the best option. For many years, the construction industry has relied on rigid formal contracts to define and enforce the obligations and rights of contracting parties. Faced with changing roles among the contracting parties, a new set of contractual arrangements designed to facilitate collaborative exchanges is evidently required (Cook and Hancher 1990).

The obligations and rights of the contracting parties are typically stipulated in the conditions of the contract. The orthodox approach assumes that both parties are rational maximizers who will try to maximize their own interests as much as possible. In this context, it is difficult to have wholehearted cooperation unless a supportive platform like an appropriately devised contractual framework is in place. Thus, in order to entail a "win-win" environment, the selection of contract types is one of the key determinants.

Construction has been identified as a local industry because most of the physical works must be completed on site. However, with the increasing trend in global competition, the profit margins for contracting organizations are diminishing sharply. In addition, demands on project performance in terms of time, cost, and quality have greatly sharpened. Faced with these challenges, contractors have had to come up with more cost-effective, time-saving, and quality-improving methods in order to remain in business (Cook and Hancher 1990). The conventional approach of design–bid–build may not be the best option for achieving these objectives as it has been shown to be adversarial and not sufficiently responsive to contingencies (Hancher 1989; Goddard 1997). There has been some suggestion that contracting parties can attain mutual benefit and success through the use of relational contracts; by establishing a long-term relationship, adversarial tendencies can be minimized (Rubin and Lawson 1988; Provost and Lipscomb 1989). The concept of using relational contracts in construction projects has attracted wide discussion in the construction industry. Notably, partnering and project alliancing, already used in construction, are illustrative examples of relational contracts (Walker et al. 2002; Hauck et al. 2004; Wong and Cheung 2005).

Traditional versus Relational Contracts

In a traditional contract, contingencies are included to act as a buffer for unforeseeable spending. The contractors bear the over-

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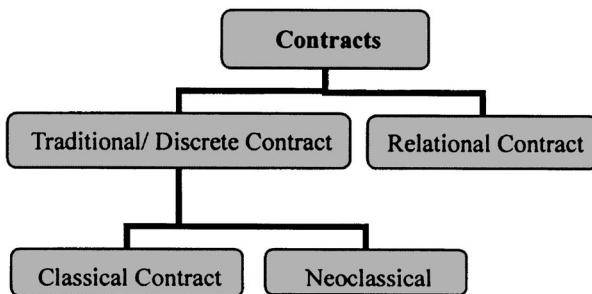


Fig. 1. Types of contract

budget risk if the contingencies allowed do not cover those unforeseeable costs. Consequently, the complexity and diversity of construction projects expose a contractor to a high degree of uncertainty and risk. The contractors may respond by submitting higher tender prices or by making claims during the construction stage. To address this problem, the use of relational contracts may be considered. Previous studies by legal scholars, in the area of transaction characteristics, have suggested that contracts can be classified into two main categories: traditional and relational contracts (Macneil 1969, 1974b, 1978, 1985; Goetz and Scott 1981; Harris 1983; Macaulay 1985; Campbell 1992). Traditional contracts can further be divided into classical and neoclassical contracts (Macneil 1974a). Fig. 1 illustrates the contract groupings as described.

The classical contract is the type of traditional contract that was commonly used in the 1920s–1930s (Williston 1920, 1932; Macneil 1978). This type of contract aims to cover as many contingencies as possible in order to reduce the possibility of claims and disputes. However, it is difficult to assess the amount of contingency required in a volatile market. The neoclassical contract is similar to the classical contract, but it is “considerably modified in some, although by no means all, of its detail” (Macneil 1974a). It involves a third party who assists in resolving claims or disputes and evaluates the performance of the other two parties (Macneil 1978). The characteristics of classical and neoclassical contracts are summarized in Table 1.

Critiques on Classical and Neoclassical Contract Law

According to Feinman (2000), classical contract law was the realm of consensual relations, as distinguished from the nonconsensual relations governed by tort law. The classical approach

Table 1. Characteristics of Classical and Neoclassical Contracts [Macneil (1978, 1987); Lyons and Mehta (1998)]

Classical contracts	Neoclassical contracts
1. It is used when the contract period is short.	1. The neoclassical contract is used with a specific fixed duration or task to be completed.
2. Higher restrictions on personal interaction.	2. Personal interaction is relevant under this contract type.
3. It is used when the transaction is done only once and there will never be a future connection.	3. It is used when future cooperation opportunity exists.
4. It allows a higher degree of discreteness and presentation.	4. It allows a lower degree of discreteness and presentation.

involved the application of relatively clear rules of legal doctrine, typically framed at a high level of generality and presenting dichotomous choices. The scope and method served the substance; within the realm of consensual relations, contract law simply developed ground rules for self-maximizing private ordering. Two types of criticism were raised: internal and external. The internal criticism compared the ostensible rules with the results of cases and found that the rules did not explain the cases and that no formal, general rules ever could. The external criticism situated the rules in the world of actual contracting practices, arguing that the law's approach needed to be changed to serve the objectives of contract law. Essentially the external criticism is the result of contextualization, i.e., the more classical contract law was placed in context, the less sense it made.

Neoclassical contract law is broadly the current status of contract law and addresses the shortcomings of classical law rather than offering a wholly different conception of the law (Hillman 1997). The scope of neoclassical law is residual, as it no longer attempts to encompass all consensual transactions. It is fragmented, as the body of principles (the rules of formation, validation, performance, and remedies) is not necessarily applied in the same way in all types of cases. The substantive core of neoclassical law is based on the assumption that parties act out of self-interest within a context of trade custom balanced by social values (Hillman 1997).

Relational Contracts

The emergence of a relational paradigm of contract can be attributed to the inadequacies of classical and neoclassical contract law in describing the ever-increasing complexity of contractual arrangements. A symposium commemorating the immense contribution of Ian Macneil in the development of a relational contracting paradigm was held at Northwestern Univ. School of Law in early 1999 (Feinman 2000). The completeness and acceptance of a relational contract theory remain controversial; nonetheless the works of Macneil (1969, 1974b, 1978, 1985) have provoked discussion on the aforementioned adequacy of classical and neoclassical contract law. In fact, Macneil (1974a,b) has not advocated a relational contract theory per se. Instead, he recalled: “I was simply exploring and trying to make sense of reality, the reality of what people are actually doing in the real-life world of exchange” (Macneil 1974a,b). In this context, Macneil (2000) stated that an “essential contract theory” can be used instead of a relational contract theory. In essence it covers his descriptions of common contract behavior and norms, identified as:

1. Role integrity (requiring consistency, involving internal conflict, and being inherently complex);
2. Reciprocity (the principle of getting something back for something given);
3. Implementation of planning;
4. Effectuation of consent;
5. Flexibility;
6. Contractual solidarity;
7. Restitution, reliance, and expectation interests;
8. Creation and restraint of power;
9. Propriety of means; and
10. Harmonization with the social matrix, that is, with supracontract norms.

In the view of Feinman (2000), the substance of relational contract theory has been seen as a refinement of neoclassical contract law. With relational contracts, greater attention needs to be paid to the desirability of fairness, cooperation, and short-term

self-interest. Thus, the substantive core of relational contract theory proceeds from two propositions: that a contract is fundamentally about cooperative social behavior and that contracts containing significant relational elements are the predominant form of contracting. This suggests that there is a baseline of obligation in contracting, one that arises out of the contract norm. This proposition is distinguished from the classical position that there is a baseline of no obligation, and from the neoclassical position that there is a core of self-interest affected at the periphery by custom and regulation. The precise content of the obligation is determined by the application of the relational method, i.e. the conformance to the common contract behavior and norms (Feinman 2000).

Relational Analysis of Construction Contracts

In this subsection, the characteristics of relational contracts as expounded by notable legal scholars will be outlined. The extensibility to construction contracts is also discussed.

One of the developments in the realization of a relational contract paradigm has been the furthering of fragment analysis on contract law (Feinman 2000). The law of franchise and employment are good examples. Furthermore, Feinman (2000) considered that commercial construction contracting that operates in a setting in which contracts, including forms of contract, are widely used by a mix of repeat and occasional players of different size and sophistication, in which interactions take place over time in a variety of settings, and in which problems always arise, is amenable to relational analysis.

According to Goetz and Scott (1981), “a contract is relational to the extent that the parties are incapable of reducing important terms of the arrangement to well-defined obligation.” To this end, a relational contract is “incomplete,” and hence some legally “ill-structured” provisions are often included: (1) the obligation of one party (the “agent”) to use its “best efforts” to carry on an activity beneficial to the principal; and (2) the concomitant right of the principal to terminate the relationship. The interpretation of these core provisions of relational contracts is often the prime source of costly litigation. Furthermore, it was suggested that the uncertainties over the legal treatment of these provisions impedes the ability of contracting parties to adjust to these special conditions that in turn induce relational contracting.

As compared with Macneil’s communitarian conceptualization of a relational contract, Goetz and Scott (1981) based theirs more on the economic opportunities accorded by a relational contract. It was explained that each of the contracting parties wants a share of the benefits resulting from these economies and consequently seeks to structure the relationship so as to induce the other party to share the benefits of the exchange. The typical means to accomplish this is through specifying the performance standard of each party and then selecting a mechanism to ensure compliance with the agreed-upon standard.

Relational contracts are particularly suitable for projects filled with inherent complexity and uncertainty. As such, reducing performance standards to specific obligations is rather difficult as compared with conventional contracts. Thus, the parties would create unique, interdependent relationships, wherein unknown contingencies on the intricacy of the required responses may prevent the specification of precise performance standards. One notable example is the use of best effort clauses to articulate performance obligations in relational contracts. However, such an

imprecise requirement calls for the use of control mechanisms like liquidated damages, incentives, and unilateral termination provisions.

Construction contracts are conventionally fitted with detailed specifications that serve as performance standards. This works well as far as physical work and functionality are concerned. The rigidity and legal status that it carries firmly set the boundary of performance, a change of which invites conflict and dispute. The recent trend has been toward a wider use of the partnering approach and greater integration in finance, design, construction, and operation as in private-public partnerships. Facilities development has therefore been undergoing major changes that require a fundamental revamp of contracting attitudes. In Macneil’s terms (2000), the move has been from as-if-discrete toward relational. Whereas construction has been just one of the phases in the whole development process, it is now more appropriate to view the complete development cycle as one project involving several key players: owner, designers, contractor, subcontractors, and suppliers.

In these contexts, partnering is believed to represent a possible means of addressing the problems of adversarial relationships, mistrust, and inefficient communication in the construction industry (Bayliss et al. 2004; Chan et al. 2004; Wong and Cheung 2005). In the last two decades, the partnering approach to project delivery has been used in construction to foster a more collegial contracting environment. As such, Mcinnis (2003a,b) suggested that partnering contracts in construction exemplify relationalism, as partnering emphasizes relationship management. Reducing partnering behavior to explicit contractual requirements is not that straightforward. This is akin to the difficulty in specifying performance standards in relational contracts as suggested by Goetz and Scott (1981). In actual fact, a partnering agreement or charter is not even a formal contract; instead, it is treated as a moral contract (Barlow 2003). The underlying spirits of partnering, such as cooperation, trust, equality, etc. are consonant with the concept of good faith (Heal 1999). However, the doctrine of good faith is a difficult concept to define (Colledge 1999). There is no universally accepted definition of good faith. Two broad definitions of good faith are available from the uniform commercial code (UCC 1968): (1) “honesty in fact in the conduct or transaction concerned”; and (2) “honesty in fact and the observance of reasonable commercial standards of fair dealing in the trade.”

In a common law system, there is no general obligation to observe good faith in the making or performing of a contract (O’Connor 1990). However, this does not mean that the courts allow unfair or unconscious acts in the formation or performance of a contract. Various rules or techniques, serving as substitutes of good faith, are adopted by the courts for achieving justice and fair results. The rationale behind this approach is that the common law system highly emphasizes the principle of freedom of contract and intervention in contract is done as an exception (Groves 1999). The principle of freedom of contract will help in understanding the status of the doctrine of good faith in common law. The overriding principle of the freedom of contract can in fact be divided into two different but related forms. According to Cohen (1995), the first form is a positive one, which means that the parties are free to create a binding contract and make the terms of their agreement. The second form is a negative one meaning that the parties are free from obligations so long as a binding contract has not been concluded. It can be seen that the first positive freedom operates at the time of creation and performance of a contract, whereas the negative is relevant to the precontractual period. Summers (1968) employed an “excluder” theory that

Table 2. List of Bad Faith Conduct and Its Corresponding Meanings in Good Faith (Developed from Summers 1968)

Forms of bad faith conduct	Good faith meanings
A consultant concealing information in his possession.	Fully disclosing material facts.
Builder purposely failing to perform in full, despite otherwise substantially performing.	Substantially performing without knowingly deviating from specifications.
Builder abusing bargaining power to coerce an increase in the contract price.	Refraining from the abuse of bargaining power.
Paying no attention to mitigating the other party's damages.	Acting diligently.
Arbitrarily and capriciously exercising a power to terminate a contract.	Acting with some reason.
Adopting an overreaching interpretation of contract requirements.	Interpreting contract language fairly.
Nonperformance despite repeated assurances of performance.	Accepting adequate assurances.

identifies good faith by way of contrast with the specific and variant forms of bad faith that judges decide to prohibit. Based on the list of forms of bad faith, and the respective meanings of good faith provided by Summers (1968), Table 2 gives their construction analogies (refer to Table 2). Without a firm legal footing, the status of partnering agreement is at a crossroads. Notwithstanding this, Colledge (2000) presented a thorough analysis of the obligations of good faith in partnering in U.K. construction contracts and suggested that express provisions to use best efforts, "best endeavors" or similar terms are akin to good faith, a relational feature identified by Goetz and Scott (1981). In actual fact, standard forms of contract for partnering projects are now available. For example, PPC 2000 (ACA 2000) and partnering option X12 of the New Engineering Contract (Telford 2005) are commonly used. PPC 2000 was reported to have been used successfully for project alliance in the United Kingdom (Saunders and Mosey 2005) and the New Engineering Contract is identified as a suitable form for relational contracting (Gerald 2005).

In sum, relational contracts in construction can be framed as informal agreements involving an unwritten code of conduct that can powerfully bind the behavior between the contracting parties through features such as trust and relationship continuity (Deakin et al. 1994; Eisenberg 1995; Baker et al. 2002). A relational contract provides the means for sustaining long-term and complex contracts with a high degree of flexibility in order to allow parties to express their detailed knowledge in specific situations and adapt to new environments (Macneil 1978, 1980; Joskow 1987, 1990; Leffler and Ruker 1991; Gundlach and Achrol 1993; Swierczek 1994; Cheung 2002). The performance standard is governed by best effort or "good faith" requirements. Where there is a disagreement, a third party is involved in helping to match the contractual parties initially and a sanctioning party is called for if there is any breach of contract (Ellickson 1991; Grief 1993; Grief et al. 1994). The general characteristics of relational contracts are summarized in Fig. 2.

How Relational Are Construction Contracts?

Latham (1994) suggested that setting out effective terms and conditions, which include the contracting parties' duties in the con-

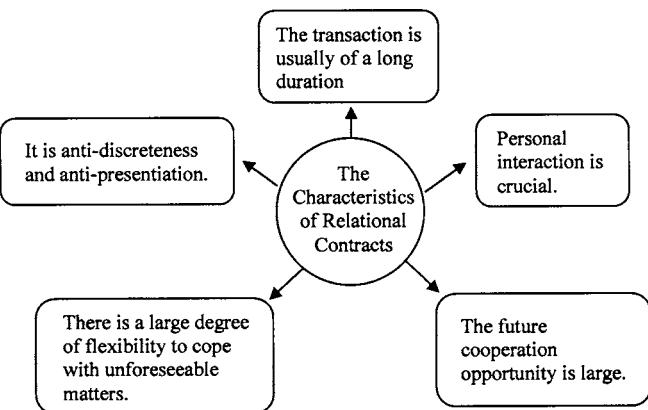


Fig. 2. Characteristics of relational contracts (Macneil 1978, 1980, 1987; Joskow 1987, 1990; Leffler and Ruker 1991; Schwartz 1992; Gundlach and Achrol 1993; Lyons and Mehta 1998; Cheung 2002)

struction process, is paramount in fostering a spirit of cooperation and teamwork. It is suggested that the choice of contract provision, to a certain extent, depends on the relationship of the contracting parties. An inappropriate choice of contract may not only affect the relationship between the contracting parties, but also the progress and the flow of interest, which may ultimately lead to construction disputes.

As noted from the foregoing section, partnering in construction is suggested to be akin to relational contracts notwithstanding the various implementation issues that have yet to be resolved. However, in Hong Kong, most partnering projects are still delivered using the traditional system. One might then ask whether it is the partnering label or the nature of the contract that matters as far as relationalism is concerned. Furthermore, it is acknowledged that even for the various types of contracts within the construction process, the transaction characteristics are different and hence the "degree of relationalism" varies. From these contexts, a study to examine "How relational are construction contracts?" focusing on the traditional design–bid–build form of delivery, was conducted in Hong Kong. The degree of relationalism was assessed using a relational index (RI), the development of which is given in the next section.

Table 3. List of Factors for Relationship Measurement

Factors	Reference ^a								
	1	2	3	4	5	6	7	8	9
1. Cooperation	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. Organizational culture		✓	✓	✓	✓	✓	✓		
3. Risk		✓		✓	✓	✓	✓		
4. Trust	✓	✓		✓	✓	✓	✓		
5. Good faith		✓	✓		✓	✓	✓		
6. Flexibility		✓		✓	✓	✓	✓		
7. Use of alternative dispute resolution	✓		✓		✓	✓	✓		
8. Contract duration		✓		✓	✓	✓	✓		

^a1. Cheung (2002); 2. Feinman (1992); 3. Goddard (1997); 4. Halsbury (1973, 2000); 5. Haugland (2003); 6. Macedo Junior (1997); 7. Macneil (1974, 1975, 1978, 1987, 2001); 8. McInnis (2003a,b) and 9. Williamson (1979, 1985).

Table 4. Arithmetic Mean Scores Comparison (without Weightings)

Factors	Contract types			
	Main contract	Nominated subcontract	Domestic subcontract	Direct labor contract
Cooperation	5.50	4.89	5.39	4.72
Organizational culture	4.50	4.38	5.08	4.58
Risk	5.15	4.58	5.08	4.35
Trust	5.55	4.91	5.27	4.59
Good faith	4.96	4.58	5.23	4.65
Flexibility	4.74	4.35	4.74	4.35
Use of alternative dispute resolution	4.42	4.15	3.69	3.46
Contract duration	4.81	4.77	4.69	4.00
Average arithmetic mean score for a particular contract type	4.95	4.58	4.90	4.34

Development of Relational Index

Critical Factors

There are many factors that affect the choice of contract type in the construction industry. These factors are important components in the construction of a RI. Literature reviews were carried out to short-list these factors (refer to Table 3). Finally, eight factors were identified. These are: cooperation, organizational culture, risk, trust, good faith, flexibility, the use of alternative dispute resolution (ADR), and contract duration. A brief description for each of these factors is provided seriatim.

Hartnett (1990) described cooperation as a situation under which the contracting parties work toward the common goals and benefits of the project. Taking a broader perspective, organizational culture is the social energy which guides human behavior in an organization (Kilman et al. 1985). It provides implicit directions for the organization's members (Swierczek 1994). Risk refers to a situation in which the assessment of the probability of a certain event is statistically measurable. It relies upon the availability of known events for this purpose (Ashworth 1999). The trust factor is a complex construct with multiple bases, levels, and determinants (Hart 1988), and is often associated with situations involving personal conflict, uncertain outcomes, and problem solving (Whitney 1996). It is also a prediction and expectation of future events. Varying in intensity, this is the confidence in and reliance upon the prediction (Rosenfeld et al. 1991). Another factor is good faith, which governs the contracting parties' behavior in acting honestly (McInnis 2003a,b). Bigsten et al. (1999) stated

that flexibility arises when contractual performance is made explicitly or implicitly contingent upon external events affecting one of the parties, therefore making it a form of insurance and risk sharing. The riskier the environment, the higher the need for flexibility, the higher the likely incidence of contract nonperformance, and the higher the expectation to renegotiate. The use of ADR is an alternative to adjudicatory procedures. The ADR includes conciliation, mediation, adjudication, and the dispute resolution advisor system. Contract duration refers to the length of the contract period. Generally, the longer the contract period, the higher the chance that changes will occur and thus a greater reliance on the relationship is needed to maintain the contractual bond.

Data Collection

Based on the above factors, a questionnaire survey was conducted in Hong Kong to solicit the views of practitioners on the degree of relationalism of different construction contracts. The respondents targeted were those with extensive experience in contract management. Through a search of directories of professional bodies and web sites of companies, personnel holding senior positions and with available contact information were identified. Questionnaires were sent to 80 contacts. In the survey undertaken, four types of construction contracts commonly used in the traditional design–bid–build form of delivery were considered. These were the main contract, nominated subcontract, domestic subcontract, and direct labor contract types. The factors identified from the previous section were employed to measure the degree of relationalism attributable to these contracts. The respondents were asked to rate how these factors affect the business relationships between contracting parties, using a rating scale of 1–7. A sample question for the first factor, "cooperation," is shown in the Appendix.

Results and Discussion

Among the 80 contacted practitioners, 48 of them returned completed questionnaires, thus achieving a response rate of 60%. By profession, 28 respondents were quantity surveyors while the other 20 were either project managers or engineers. All respondents had more than 10 years experience in contract management. With the collected data, the ratings were analyzed by comparing the arithmetic mean scores for each factor. The overall results of these comparisons have been summarized in Table 4.

The arithmetic means obtained in Table 4 were computed with equal weightings from the eight factors. This may not reflect the expected variations in contribution. As such, weightings were needed for each factor to show their relative importance. This was

Table 5. Pairwise Comparison Matrix Obtained from One of Experts (for Main Contracts)

Factors/Criteria	Organizational culture	Risk	Trust	Good faith	Flexibility	Use of ADR	Contract duration
Cooperation	5.0	3.0	1.0	3.0	1/5.0	5.0	3.0
Organizational culture	—	1/3.0	1/5.0	1/3.0	1/5.0	1.0	1/3.0
Risk	—	—	1/5.0	1.0	1/5.0	3.0	3.0
Trust	—	—	—	5.0	1/3.0	5.0	5.0
Good faith	—	—	—	—	1/5.0	3.0	3.0
Flexibility	—	—	—	—	—	5.0	5.0
Use of ADR	—	—	—	—	—	—	1.0

Table 6. Nine-Point Pairwise Comparison Scale (Adapted from Saaty 1980)

Pairwise comparison scale	Description
1	Equal importance of both elements, both contribute equally to the property.
3	Moderate importance of one element over the other. Experience and judgment favor one element over the other.
5	An element is strongly favored. It shows strong importance over the other.
7	An element is very strongly dominant. It shows very strong importance over the other.
9	An element is favored by at least 1 order of magnitude. It shows extreme importance over the other.
2,4,6,8	Intermediate values between the above adjacent values. Used for compromise between two judgments.

Note: Reciprocals: if one element is strongly less important than the other, 1/5 to be inserted.

achieved by employing an analytical tool called the analytical hierarchy process (AHP). It is a tool that can be used to determine the relative priorities of factors (Chua et al. 1999). The AHP process employs a pairwise comparison matrix. Using the *ExpertChoice™* software environment, users (selected respondents) were required to make judgments on the relative standings of the eight selected factors listed in the matrix table. In this study, five experts were invited to rank these factors with respect to the four contract types. A total of 20 pairwise comparison matrices were obtained. The pairwise comparison matrix obtained from one of the experts is shown in Table 5.

Table 5 shows the factors as rated by one of the experts with respect to the main contract type. Cooperation was compared with “organizational culture,” then “risk” and so on. The pairwise comparisons are guided by a nine-point scale as shown in Table 6. The experts simply entered a scale in the empty cell corresponding to the factors being compared, giving a subjective judgment. The *ExpertChoice™* software handles the pairwise comparison and related calculations automatically. The mathematics underly-

ing the use of AHP to generate the relative importance ratings for the factors are found in linear algebra and graph theory. Based on the data obtained from Table 5, the importance weighting of each factor for the main contract type could then be calculated. The results show their relative standings sorted in descending order: cooperation: 0.212, flexibility: 0.180, trust: 0.149, risk: 0.134, good Faith: 0.114, organizational culture: 0.104, contract duration: 0.059, and the use of ADR: 0.048 (refer to Table 7).

The weightings of the corresponding factors for the nominated subcontract, domestic subcontract, and direct labor contract types were similarly obtained. With the input of the five experts, a total of five sets of importance weightings were obtained for each contract type. Average importance weightings were thus calculated. Based on these results, the revised average arithmetic mean scores were also obtained (refer to Table 7).

As shown in Table 7, the average arithmetic mean score for each of the factors was different with respect to the contract types. In order to assist their interpretation, these scores are further illustrated in Fig. 3.

As discussed, legal scholars have suggested three different forms of contract: classical, neoclassical, and relational. The degree of relationalism of these contracts can be measured by the use of a seven-point scale (refer to Fig. 3). The smaller the arithmetic mean score, the weaker would be the relationship between the contracting parties. The larger the arithmetic mean score, the closer would be the relationship between the contracting parties. Hence, the position of each form of contract was assigned on this scale based on its characteristics.

From the average arithmetic mean scores obtained in Table 7, the main contract type has the highest degree of relationalism when compared with the other three contract types. It is followed by the domestic subcontract, nominated subcontract, and direct labor contract. The degree of relationalism can be assessed in two ways: (1) by comparing the numeric value of the relational index (absolute comparison); and (2) by comparing the relational indices in relative terms (relative comparison). As shown in Fig. 3, the absolute comparison showed that the neoclassical contract was suggested for all of the contract types, a result that can be expected in a design–bid–build form of delivery. Nevertheless, when relative comparison is employed, main contracts and domestic subcontracts were found to be more relational than nomi-

Table 7. Overall Importance Weightings and Arithmetic Mean Score Comparison (with Weightings)

Factors	Main contract			Nominated subcontract			Domestic subcontract			Direct labor contract		
	Weighting (A)	Mean score (B)	(A) × (B)	Weighting (A)	Mean score (B)	(A) × (B)	Weighting (A)	Mean score (B)	(A) × (B)	Weighting (A)	Mean score (B)	(A) × (B)
Cooperation	0.212	5.50	1.17	0.190	4.89	0.93	0.131	5.39	0.71	0.140	4.72	0.66
Organizational culture	0.104	4.50	0.47	0.104	4.38	0.46	0.105	5.08	0.53	0.129	4.58	0.59
Risk	0.134	5.15	0.69	0.090	4.58	0.41	0.125	5.08	0.64	0.134	4.35	0.58
Trust	0.149	5.55	0.83	0.164	4.91	0.81	0.155	5.27	0.82	0.214	4.59	0.98
Good faith	0.114	4.96	0.57	0.111	4.58	0.51	0.153	5.23	0.80	0.152	4.65	0.71
Flexibility	0.180	4.74	0.85	0.198	4.35	0.86	0.214	4.74	1.01	0.129	4.35	0.56
Use of alternative dispute resolution	0.048	4.42	0.21	0.049	4.15	0.20	0.047	3.69	0.17	0.043	3.46	0.15
Contract duration	0.059	4.81	0.28	0.095	4.77	0.45	0.070	4.69	0.33	0.060	4.00	0.24
Average arithmetic mean score (with weightings)			5.07			4.62			5.01			4.47

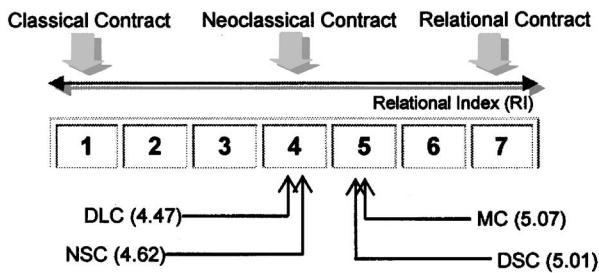


Fig. 3. Relational index

nated subcontracts and direct labor contracts (refer to Table 8).

In actual fact, maintaining a good relationship between the client and main contractor is a prerequisite in fostering cooperation. This is also supported by the weightings obtained from the experts, which consider cooperation as being the paramount factor for the main contract type. Clients are the source of work and maintaining a long-term business relationship with them is a means of survival from a main contractor's standpoint (Wong and Cheung 2004). This is more acute in Hong Kong as the construction market is dominated by a few megasize developers. As for the main contractor and the domestic subcontractors, they are in fact close construction partners. It is common for there to be a group of domestic subcontractors working regularly with a main contractor. The domestic subcontractors are therefore very cooperative to preserve their symbiotic relationship. The domestic subcontractors may even adapt the working habits and patterns of the main contractor. Therefore, the main contract and the domestic subcontract types returned close relational indices. The nominated subcontractor is different from the domestic subcontractor in terms of the business and contractual relationship with the main contractor. Nominated subcontractors are not selected by main contractors. They are specialist contractors appointed by clients. Their bargaining power is relatively higher than that of domestic subcontractors and as such they can be concerned about their relationship with the main contractor. Thus, the relational index of nominated subcontracts is lower than that of domestic subcontracts. Finally, domestic labor contracts only deal with provision of labor services. The issues involved are fewer and the contractual arrangements are straightforward. The degree of relationalism is therefore lower than for the other contracts. As a whole, the relational indices obtained reflect well the degree of relationalism as observed. The absolute comparison figures also suggested that in a design–bid–build form of delivery, the concepts of the relational contract may not be readily applicable.

Table 8. Suggestions for Use of Different Contract Types in Construction Industry

Contracts commonly used in Hong Kong building works		Suggestions	
	Relational index	Absolute comparison	Relative comparison
Main contract	5.07	Neoclassical contract	Relational contract
Domestic subcontract	5.01	Neoclassical contract	Relational contract
Nominated subcontract	4.62	Neoclassical contract	Neoclassical contract
Direct labor contract	4.47	Neoclassical contract	Neoclassical contract

Concluding Remarks

The high degree of fragmentation within the construction industry impedes the business relationship between the contracting parties. Establishing long-term relationships between the parties may improve this situation. The choice of contract types is the first step toward; creating a platform for relationship development and management. Legal scholars have suggested, based on their transaction characteristics, three types of contracts: classical, neoclassical, and relational, each having different characteristics. This study sought to examine the degree of relationalism of various contract types in a traditional design–bid–build form of delivery. This investigation is of value because notwithstanding the push for cooperation in contracting, it has to be recognized that different contract types exhibit transactional characteristics that may or may not be amenable to a relational paradigm. The degree of relationalism was measured in this study using a relational index framed by eight critical factors characterizing relationalism. These are: cooperation, organizational culture, risk, trust, good faith, flexibility, the use of alternative dispute resolution, and contract duration. To enhance the discriminating power of the RI, five experts assisted in determining weightings for the eight factors. The use of the AHP enhanced the reliability of the relative importance weightings as a result of its internal consistency checks.

The relational index obtained in this study suggests that among the four contract types commonly featured in a traditional form of delivery, main contract and domestic subcontract types are more relational than nominated subcontract and domestic labor contract types. These findings match well with general observations. The middle range for the RI figures obtained (4.47–5.07 out of a total of 7) also suggests that the concepts of relational contracts may not be readily applicable to those contracts used in a design–bid–build form of delivery.

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Appendix

Sample Question: Degree of Importance of Factors Affecting Business Relationships

How did cooperation affect the business relationships between contracting parties in (1), (2), (3), and (4)?

Contract type	1	2	3	4	5	6	7	Very much
	Very little		Moderate					Very
(1) Main contract	—	—	—	—	—	—	—	✓
(2) Nominated subcontract	—	—	—	—	—	—	—	✓
(3) Domestic subcontract	—	—	—	—	—	—	✓	—
(4) Direct labor contract	—	—	—	—	—	—	✓	—

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