

CULTURE CHANGE INITIATIVES: NEEDS FOR THE HONG KONG CONSTRUCTION INDUSTRY

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SUMMARY

The construction industry is known to be more adversarial and less productive than many other industries. Many high-powered reports worldwide have called for radical cultural changes to improve the industry environment and performance levels and have recommended cooperation and collaboration through different teamwork approaches. Recent initiatives have met with some successes, mainly in the form of cooperation between owners and contractors. Benefits of these non-traditional approaches can only materialise if all major stakeholders work together as 'one team', under proper 'change initiatives'. The foregoing aspects are examined in this paper, targeting the required 'project culture' through the application of Relational Contracting (RC) principles for the joint management of risks during the whole project life cycle. Observations from recent Hong Kong based industry surveys indicate a high motivation towards such approaches. This motivation may be mobilised to achieve the desired benefits by launching appropriate change initiatives through the Government. Examples of some potentially beneficial change initiatives are added to illustrate these observations.

KEYWORDS: Change initiative, Hong Kong, Joint risk management, Project culture, Relational contracting

INTRODUCTION

The construction industry is notorious for being very adversarial [1]. Owners are risk evasive [2], and contracting parties interpret contract clauses differently [3, 4], for their own benefits [5]. Purely price-based selection strategies tempt tenderers to lower their bids to win contracts, relying on subsequent claims to recover their costs. Productivity levels are low compared to other industries and have even dropped over time in some countries [6]. Contracting parties often work 'at arms length' in disjointed relationships, usually motivated by divergent objectives. This inherent fragmentation and conflicts lower productivity levels further. Other consequences include time and cost overruns, poor quality, customer dissatisfaction, lengthy and costly disputes, and disruption of relationships among the contracting parties. These translate into more disputes and even lower overall productivity.

Although the above scenario has been particularly evident in Hong Kong [7], such self-destructive trends have been identified in many countries. High-level reports such as the Henry Tang Report in Hong Kong [8], and others in the UK, Australia and Singapore have also recommended counter measures to arrest and reverse these trends. For example, they have called for dramatic 'cultural' changes and recommended cooperation and collaboration through different teamwork approaches such as

partnering and alliancing. Though mainly between owners and contractors, applications of these approaches have recently met with some successes. But the subcontractors carry out major parts of the works [9], and consultants, suppliers and other stakeholders are also important members of the project team. They should therefore be brought into the 'one team' concept to optimise benefits [10]. This needs a 'change initiative' primarily to generate an appropriate 'project culture' by reshaping the approaches and realigning attitudes of different contracting parties, all being aimed towards optimised project delivery [11, 12].

Classical (i.e. traditional) contractual arrangements call for clear and definitive allocations of risks (and responsibilities and liabilities) between stakeholders. But all possible risks/uncertainties are not foreseeable and quantifiable at the outset [13]. Even the foreseeable risks may change in importance and may influence some other risks – requiring considerable adjustments. Classical contractual arrangements are therefore not suitable for proper risk management. Unforeseen risks would need to be dealt with using a 'Joint Risk Management' (JRM) strategy at the post-contract stage under flexible contract conditions [4]. Relational Contracting (RC) principles underpin and justify efforts to lubricate consequent contractual 'transactions' with an additional focus on smoother risk management through JRM. RC considers a contract to be a

relationship among the parties, encourages long-term provisions, and introduces a degree of flexibility into the contract - on the basis of understanding each other's objectives [14]. More relational and performance oriented (rather than purely price-based) contractor selection would also encourage an amicable RC environment, more collaborative teamwork and higher productivity [15]. These concepts may be extended throughout the supply chain, (1) to build a single coalescent team, and (2) to achieve an optimal project performance [11,12]. What is critical are the convergent culture and re-aligned attitudes of this coalesced team, which is expected to be achieved through an appropriate 'change initiative'.

Drawing on the above background observations, this paper discusses the required 'change initiatives' that would spawn and nurture the above coalesced project team through the applications of RC principles. The paper also demonstrates how RC principles may be applied in building a culturally appropriate project team for proactive JRM during the entire project life cycle. This will be reinforced by relevant observations on the perceived desirability of JRM and the potential for developing a successful RC environment, based on recent surveys. Examples of some potential 'change initiatives' will be used to demonstrate these possibilities.

TARGETING APPROPRIATE PROJECT CULTURES

Hofstede [16] describes 'culture' as the collective programming of the mind that distinguishes the members of one human group from another. It is usually reserved for societies or nations or for ethnic or regional groups, but it can be applied equally to other human collectivities or categories: an organization, a profession, or a family. Culture in construction project scenarios is therefore the combined culture of the project team comprising different contracting parties in the supply chain and also including company-wide inter-departmental members and others who contribute in some way to the final product or service to be delivered [17]. An organisational culture is thus built up from a number of sources - national, ownership, sectoral and 'style' (of organisations and dominant members). At the project level, there are other issues that also affect the resulting 'project culture'. These arise from key 'contributors' flowing in from multiple organisational cultures, individualistic subcultures, professional subcultures and operational subcultures [11].

It is therefore vital to recognize the team, while the individuals in the project team are extremely important as well. What is needed is an understanding of how to structure, develop and reward both teams and individuals without detriment to either, while also shedding costs, improving margins, and being extremely client-responsive. These imply doing things effectively and efficiently at the first time itself [17]. This requires a commitment to change and teambuilding that would be very different from that of the past. Recent studies show how such ideas are now emerging in the construction industry, as will be discussed in latter sections. The combined 'mind-set' of the project team may need continuous and cooperative learning, in a direction that recognises and responds to changes in customer demands and expectations. Such collective 'culture acquisition' (or transformation) also depends on the 'real event' in all its complexity of place, people, atmosphere, and interactive responses that is derived from 'a set of relations' [18]. This requires major project specific change initiatives. This in turn reconfirms the need for flexible contracts that can accommodate ongoing changes and thus relates well to the RC approaches that are discussed below.

FUNDAMENTALS OF RELATIONAL CONTRACTING (RC)

Relational Contracting (RC) is based on a recognition of mutual benefits and win-win scenarios through more cooperative relationships between the parties. RC principles underpin various approaches, such as partnering, alliancing, joint venturing and other collaborative working arrangements and better risk sharing mechanisms [19, 20]. At the core of RC, parties do not strictly follow the legal mechanisms incorporated in specific contracts, but they operate within a dynamic framework constantly pulled by a collection of contractual, economic and behavioural forces [21]. Relationships between the parties are therefore important. This is particularly so in complex, lengthy and evolving transactions as seen in construction projects, where the circumstances underlying the contract may change considerably over time. RC provides the means to sustain ongoing relations in long and complex contracts by adjustment processes of a more thoroughly transaction-specific, ongoing administrative kind. This may or may not include an original agreement, and if it includes an agreement, that may not influence the relationships between the contracting parties [13].

RC considers contracts as promises of doing something in the future. But not all the events can be 'presentiated' (perceived or realized), and, as all the information needed cannot be 'presentiated' at the time of contracting, mutual future planning is required. This may well give rise to 'opportunism', which is counteracted by the 'business trust' that is based on communities of shared ethical values, shared principles of fairness and convergent mutual expectations about informal obligations [22]. These are achieved through motivation and individual attitudes that considerably influence the project outcomes [23]. Such trust can sustain cooperative behaviour in the face of complexity and unforeseen problems, and also provide an ideal framework for the joint management of risks that cannot be foreseen or clearly allocated to one party at the outset. However, while non-legal enforcement mechanisms clearly play a major role in RC, legal mechanisms may also play a part in exchange arrangements. Equally, more formal contractual arrangements (i.e. classical and neoclassical) are present with an armoury of supportive non-legal mechanisms [24]. This is seen in some RC-type practices in the present construction industry e.g. through partnering and alliancing. In the case of project partnering, partners work as a team on the basis of a 'partnering charter' that is not legally binding and if there is any problem the original contract will take precedence.

CULTURE OF RISK MANAGEMENT AND THE DESIRABILITY OF JRM

The nature and extent of construction risks usually change as a project progresses, new

risks may emerge and existing risks may change in importance or be re-allocated, as not all the risks are foreseeable at the outset. Some of these risks may also require the combined efforts of at least the main contracting parties for their effective management. Yet, the owners are seen to be risk evasive and contractors are seen to be willing to assume more risks, irrespective of whether they can manage them or not [2]. On the other hand, some owners consider it almost a truism that the party best able to manage a risk should bear the risk [25]. But more recent studies show an indicative paradigm shift of the industry from the above as presented in Tables 1-3. Table 1 presents a profile of average perceptions on JRM desirability that are extracted from a summary of relevant responses from 47 respondents to a Hong Kong based survey that focused on risk management in construction projects in general, the detailed results of which are being presented elsewhere [5]. Here, it is evident that considerable percentages of many of the 41 identified common construction project risks were perceived to be more suited for JRM. Table 2 shows the desirability for JRM of almost all of the same 41 risk items irrespective of contract category. It is seen from the total sample that 15 risk items are perceived to be suited for JRM of more than 20%. Respondents in the GCC category (i.e. the General Conditions of Contract for Civil Engineering Works in Hong Kong) were seen to be more enthusiastic as they recommended 10 (i.e. 4+5+1) risk items for JRM of more than 40%. The preferred allocation of these 10 risk items

Table 1: Average Perceptions on Joint Risk Management (JRM) based on groupings of 'working organisation' and 'nature of present job'

Percentage of risk that should be jointly managed	Number of risks (out of 41, used in the survey) in each category						
	Total (47)	Working organisation			Nature of present job		
		CSL (14)	CTR (8)	OWN (15)	ACAD (10)	ENGG (18)	MGRL (19)
0	0	0	7	1	0	0	1
1 - 10	12	15	6	13	4	18	10
11 - 20	14	13	17	8	20	12	12
21 - 30	9	9	5	8	13	6	8
31 - 40	6	3	4	6	3	5	7
41 - 50		1	1	3	1		1
51 - 60			1	1			2
Over 60				1			
Total No.:	41	41	41	41	41	41	41

Notes: CSL - Consultants CTR - Contractors OWN - Owners ACAD – Academics
 ENGG - Engineering MGRL – Managerial
 Figures in parentheses () indicate the numbers of respondents in each group

Table 2: Summary of average perceptions on Joint Risk Management (JRM) based on contract categories (i.e. standard conditions of contract)

% of risk that should be jointly managed	Number of risks (out of 41 used in the survey) in each category			
	Total (47)	FIDIC (25)	GCC (8)	General (9)
0	0	0	0	1
1 - 10	12	20	9	5
11 - 20	14	14	5	11
21 - 30	9	5	10	7
31 - 40	6	2	7	11
41 - 50			4	4
51 - 60			5	1
More than 60			1	1
Total No.:	41	41	41	41

Notes: (1) Figures in parentheses () indicate the number of responses , (2) Five responses were based on some other different contract conditions and those are not compared here as a separate category , (3) FIDIC: Federation International Des Ingenieurs Conseils , (4) GCC: the General Conditions of Contract for Civil Engineering Works in Hong Kong , (5) General: Not according to any particular conditions of contract

Table 3: Preferred allocation of risk items ranked as most suitable for JRM in the GCC contract category in percentage terms

Risk items	Should be with contractor	Should be with owner	JRM
Public Disorder	20	5	75
Acts of God/ Nature	14	26	60
Third party Delays	31	12	57
Physical Impossibility	3	40	57
Delays in Resolving Contractual Issues	36	9	55
Delays in Resolving Disputes	36	9	55
Unforeseen Site Conditions	30	24	46
Legal Impossibility	12	43	45
Delayed Payments on Contracts	15	44	41
Buildability/ Constructibility	48	11	41

is shown in Table 3 in percentage terms. All

these show the collective attitude/ motivation of the industry in general, and the Hong Kong industry in particular, towards the desperate need for more RC oriented and flexible contractual arrangements that are expected to enhance overall economic performance. The observations also reconfirm the increased importance of selecting the 'right' partner with whom clients can establish and maintain such relationships and achieve high performance levels in win-win scenarios [15]. The observations may also mean that the industry is now ready to move towards the previously discussed culturally reshaped and relationally oriented project team scenarios.

IMPLEMENTING RC AND JRM

Enthusiastic industry responses towards JRM through RC, as seen above, led the researchers to carry out a follow on survey on 'potential for implementing RC and JRM'. Tables 4-7 summarise the perceptions of the respondents on two questions from this just completed second survey that covers 17 countries of five continents. Almost all of the respondents were holding at least a middle level managerial position during the survey and at least 65% of them had working experience in organisations of more than one contracting party (e.g. contractor, consultant, owner, academia). Tables 4 and 5 show the perceptions on 'when' the contractors and the subcontractor respectively should be brought in i.e. at what stage of an RC approach in order to facilitate JRM. The tables also show (1) the responsive number of respondents in different groups, and (2) their average total experiences. It can be noticed from Table 4 that except one owner from Hong Kong, all 87 respondents have recommended bringing the contractor in the project team before contract award. Moreover, only 12 (i.e. 10+2 and 15.2%) among 79 respondents (Table 5) did not prefer bringing in subcontractors before contract award. This may be considered as symptomatic of a paradigm shift of the industry worldwide towards embracing RC oriented approaches to facilitate JRM. However, 10 (i.e. 18.5% in Hong Kong group) among these 12 respondents are from Hong Kong, which may indicate that Hong Kong respondents are comparatively less receptive towards such approaches than those in other countries. This may relate to the fact that the construction industry report in Hong Kong was more recent than in some other countries. This may also relate to the presence of a more diversified cultural origin of the participants in Hong Kong's 'international construction

industry'. All these may also suggest the need for a stronger change initiative in the local construction industry, although the results show higher motivation of the industry towards RC approaches in general. It can also be noticed from Tables 4 and 5 that the responses from 'Company A' (all the respondents of this group were from one leading contractor company in Hong Kong) are almost similar to those from other respondents in Hong Kong, although the company is reputed to be at the forefront of contractors who are advocating and practising some RC approaches in Hong Kong.

**<Tables 4 and 5 may be
inserted about here please>**

Tables 6 and 7 compare perceptions on the 'importance of different factors for building a successful Relational Contract' among different groups of respondents of (a) the whole sample and (b) the Hong Kong sample respectively. The tables are arranged in descending order of rank of the whole sample and the Hong Kong sample respectively, along with the respective standard deviations for different factors. It can be noticed from the tables that 'professional ethics' has been considered more important than 'partnering experience' in both the samples. Moreover, 'collective responsibility' has been considered as the 9th and 8th most important factor within 'the whole' and 'the Hong Kong' sample respectively. The tables also show that the factors relating to trust and business ethics have been given more importance than others, with 'mutual trust' topping the lists. Comparatively lower standard deviations of the average results from the responses of different countries and diverse contracting parties indicate a consistency in the perceived need for RC approaches worldwide. The Hong Kong sample is also consistent with the whole sample in that the ranks of different factors may be different, but their difference is small. In this way, all the groups within both the samples have shown a consistency. This is reassuring in that it may hopefully indicate that we have now entered a transitional period of the long-awaited paradigmatic cultural shift in construction industries, including that of Hong Kong. It is expected that appropriate change initiative(s) will be activated in order to translate this perceived industry awareness and motivation towards a more cooperative and productive industry.

**<Tables 6 and 7 may be
inserted about here please>**

EXAMPLES OF CHANGE INITIATIVES

Partnering and alliancing are good examples of RC principles in practice. Thompson and Sanders [26] observed that (a) partnering type RC approaches can work in almost any environment if applied properly, and (b) its benefits increase with a migration of teamwork attitude from (1) competition to (2) cooperation, through to (3) collaboration and finally to (4) coalescence. Rahman and Kumaraswamy [27] compared this continuum with (1) traditional design-bid-construction approach, (2) partnering, (3) Guaranteed Maximum Price (GMP) approach (as discussed below), and (4) alliancing (as also discussed below) respectively. However, the application of foregoing approaches did not come without any initiative. While teamwork based RC approaches may be traced back over the centuries, 'partnering' emerged in the construction industry only in the 1980's in the USA [28] when the US Army Corps (being a public sector client) pioneered and popularised it. In Australia, it was the Australian Constructors Association (ACA) that pioneered and promoted RC approaches. This came after the realisation that they could serve their clients better through 'partnering.' After trying partnering and alliancing, they are now moving towards commercially oriented and more flexible Relationship Contracting [29], which aligns with the RC principles and therefore includes partnering and alliancing. Movement for change on these aspects in Australia was thus initiated under the leadership of the contractors.

On the other hand, such change initiatives in the UK were driven by the government and as such two industry reports, namely the Latham report [1] and the Egan Report [30], came within a span of only 4 years. These in turn resulted in different programmes (e.g. M4I – the 'Movement for Innovation' – <http://www.m4i.org.uk>) aiming at innovative solutions for industry development, and some of them came up with solutions like the partnering in the public sector [31]. Such change initiatives may therefore emerge from either direction - depending on the nature and culture of the local industry. It has been recommended that clients should lead such initiatives in Hong Kong [8] in the form of: (1) better integration through alternative procurement approaches, and (2) wider adoption of partnering. It is being argued here that such initiatives should begin from (a) top governmental levels (as the largest client and policy maker), and (b) top levels of other major

client organisations - by reshaping their attitudes towards project specific RC based approaches.

Other overseas examples of such approaches include the Australian National Museum design and construction project that was contracted under a pioneering 'alliance' agreement [32]. It was 'all encompassing' in that the alliance partners merged into a virtual company (including the clients) and jointly shared risks and rewards according to an agreed formula. After the architect was appointed, the enlightened clients selected other alliance partners with more priority on some 12 non-price attributes over cost. The project was completed within its original budget appropriation and three days ahead of an already tight schedule [33]. A target cost contract approach was also incorporated with 'open book' and 'no dispute' approaches. In terms of quality, it achieved a high quality score of 8 on a scale of -10 to +10. Alliancing in this project provided a vehicle for driving RC and deriving associated benefits, which may not be suitable for some other projects. Therefore, the particular modality (vehicle) to be used depends on the circumstances, project priorities and potential participants, while the role of a champion (leader) is also important. The following examples support this argument.

In the Stave Falls Replacement Project in Canada, a finalist in the Project Management Institute's 2001 International Project of the Year Competition, the process was initiated by selecting a 'champion' project manager [34]. A very strong commitment of the enlightened (and 'culturally progressive') client, and consequently transformed project participants brought this challenging project to completion on-time, while 21% under budget. On the other hand, the Heathrow Express Railway project will probably be an appropriate example of a successfully completed teambuilding exercise in a changed culture on an ongoing project [10]. The project suffered an enormous setback when the tunnel in the central terminal area collapsed, yet the 'culture change' initiative of the client in the form of teambuilding and cooperation among 'all parties' concerned resulted in (1) a reduction of 20% of costs it expected to carry after the collapse, (2) made up critical construction time, and (3) saw the opening date for the railway brought forward from early 1999 to June 1998. The change initiative by a 'champion' project manager began from the 'top' of the project team. Regardless of their organisational affiliations, parties on this project subscribed to a slogan that they were not

competing with each other but operating as 'one team' with overriding loyalty to the goal of delivering the railway. The positive attitudes and commitment of the top executives of this project were inspired and 'culturally changed' other participants as well. Lownds [10] argues that junior members of a team/ organisation try to follow their seniors and the attitudes of the senior members thus considerably influence the project outcomes.

Though not yet extensive, the application of RC approaches is not uncommon in Hong Kong. For example, Bayliss [35] reported on the rewarding partnering experiences on the Tseung Kwan O Extension (TKE) project of the Mass Transit Railway Corporation (MTRC). Before embracing such approaches in a so called culturally diversified and traditionally adversarial construction industry in Hong Kong, the MTRC carried out some research to understand and learn the process, identify the areas for development, and develop a culture of partnering internally. The TKE project is still ongoing, but the savings have reportedly so far considerably outweighed the costs. There have been less claims; claims and commercial matters are being dealt with in a professional manner; issues are being resolved quickly to the satisfaction of both parties, and waste associated with prolonged disputes and spurious claims is being largely avoided. There are more face-to-face discussions, with for example contractors sharing the same office with the designers. As emerged from an interview, the MTRC has a highly motivated project team that enabled in-house project management capability and reputation for achieving good relationships with contractors. These in turn have created a reputation of MTRC among its project partners to work in a different environment, including post contract partnering that also enabled target final account and pain share/ gain share arrangements. MTRC reportedly plans to bring in the contractor at very early stage of their next project, forming a type of alliancing arrangement and paying the costs incurred to the few 'next best' selected contractors for their participation in this selection process.

In another example, Ho [36] recorded very high cost savings on a Guaranteed Maximum Price (GMP) based procurement strategies that included an open book approach when the contractor - together with his subcontractors' and suppliers' information - worked closely together with the consultant. Savings of 11-38% were evidenced in comparison to 4 other similar projects done by the same contractor. As

emerged from a recent interview, the chief executive of the contractor on this GMP project reportedly convinced the private sector client that there is a better way to deliver good projects, which resulted in these cost savings. He was also apparently able to 'culturally shift' his colleagues to doing things differently, making his company a pioneer in GMP based RC approaches in Hong Kong. It seems that the GMP approach is now gaining popularity among contractors, as the last contract of this kind was reportedly awarded by a competitive bidding method.

In order to translate industry motivation and enthusiasm as seen in the surveys and the initial successes seen in the above examples into sustained performance improvements, interviewees in a follow-up survey (including the above two interviewees) recommended that government should take the lead. Widespread dissemination of the successes of practicing RC approaches worldwide in general, and the above MTRC and 'Company A' initiatives in Hong Kong in particular, may motivate local policy makers and officials to design a system that can deliver similar benefits widely in the local industry. Politicians and governmental officials connected with the construction industry may play an important role in this regard. Broad change initiatives may include, for example, (a) more relationally driven and performance oriented contractor selection that would encourage an amicable RC environment and more collaborative teamwork [15]; (b) re-engineered contractual systems to demonstrate holistic RC oriented cultural change [12]; (c) specifying 'partnering' (experience or readiness/ commitment) as a precondition for contractor prequalification [37]; and (d) introduction of post contract partnering-type arrangements [31], that will also include proper restorative techniques [38]. This in turn will compel other project partners to develop an RC oriented culture that will also help to propagate RC on a broader scale i.e. through the whole supply chain, as a standard way of doing business.

CONCLUDING OBSERVATIONS

There is increasing evidence of a growing appreciation of benefits from non-traditional RC oriented procurement strategies. These range from very preliminary/ basic type partnering to coalesced and more relational approaches even in Hong Kong. A growing realisation of the advantages of JRM is 'feeding into' an appreciation of less adversarial

contracting frameworks. The inspiration and impetus conveyed by the Tang Report, is expected to be translated into appropriate initiatives via the (Provisional) Construction Industry Coordination Board and the Works Bureau. The Hong Kong construction industry is therefore seen to be fast approaching a transition phase of transforming its traditional existing adversarial culture towards more relational holistic 'one team' approaches that also suit the nature of a particular project. If such RC principles are translated into practices that are made mandatory in contracting and selection procedures, all potential project partners will be forced to fit into 'the system' in order to win work and survive. This will plant the seeds for a mutually beneficial RC culture and will help to propagate RC on a broader scale, through the whole supply chain. However, great care is needed when introducing such major changes, in order to safeguard against potential gaps/ loopholes that may be abused by any less committed parties, who for example may seek short-term gains through violating the trust placed in them under RC approaches.

The government therefore evidently needs to take the initiative to formulate appropriate policies and to carefully implement and monitor the required changes, in order to (1) translate the industry enthusiasm (as observed in the survey results) into performance improvements, and (2) create an RC oriented culture as a standard way of doing business. The 'next generation' in the construction industry can then be expected to be horizontally and vertically integrated in RC oriented virtual organisations that synergise multiple functions and provide effective, efficient, and seamless services to satisfied clients.

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