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ABOUT JCPMI

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Preface to the JCPMI special issue celebrating the 10th Anniversary of the cidb Postgraduate Conference series

The cidb postgraduate conference was initiated in 2003 to bring together academics, researchers, practitioners and students from the different construction industry disciplines to debate issues of interest. Since inception, the conference has provided a platform for active postgraduate researchers to exchange experiences and observations about the state of the industry and to also provide a knowledge base for the future development of the industry.

The focus of papers presented at the conference have covered areas of construction industry performance, such as health and safety and people in construction; competitiveness of the industry including the development of small and medium contractors; the industry's contribution to socio-economic development and its contribution to employment creation as well as long-term sustainability in the industry.

The cidb postgraduate conference has always focussed on supporting a research agenda that results in the development and transformation of the South African construction industry and the human capital of the industry. The cidb is pleased that from humble beginnings, the academic community for facilitating debate, partnerships and knowledge dissemination amongst students and academics across different institutions now recognises the conference as a significant event. It has also made significant contributions to knowledge creation on developmental issues in infrastructure development such as the debates on health and safety, the growth of the emerging sector, and impact of government procurement on contractor development, among others.

Significantly, the cidb postgraduate conference has contributed to the growth of academics. From the initial intention of providing a place for potential and up and coming researchers, the conference has grown to a space where professors who first participated in the conference as honours and masters students have been given a platform to develop to full professors. It is further encouraging seeing that these professors are using the same platform to support the growth and development of their students. This we hope will lead to the continued growth and prestige of the cidb postgraduate conference.

Further growth of the conference is shown by the expansion of its geographic and academic reach. From its humble beginnings as a local conference targeting students and researchers in South Africa, the conference has now grown a global footprint that attracts participants from across the world. It is our firm belief that the cidb Postgraduate Conference will continue to grow and attain the status of a fully international meeting.

Where to next?

As we reflect on the 10th conference, we need to re-focus our efforts on where we would like the emphasis of academic development and the trajectory of the industry as a whole to be in the next ten years. Some of the critical areas to consider as we plan for the next 10 years and beyond include an increased emphasis on human resources transformation, including the recruitment and retention of more blacks and female academics; the development of more structured partnerships between academic institutions and industry; the translation of research findings into practical solutions – with particular reference to factors that impact on small contractor development and sustainability. We need to develop learning material that can be used to train contractors to higher levels of competitiveness and sustainability. We also need to broaden the focus beyond contractors, and to include a more significant emphasis on the role of built environment professionals. Lastly, we need to improve the working conditions in the industry and increase overall health and safety performance as well as providing quality training that results in sustained career opportunities.

The cidb remains committed to increasing its support for the built environment research agenda through the re-introduction of the cidb Centres of Excellence to facilitate dedicated research studies and shorten time to graduation.

Lastly, as we celebrate the 10th occurrence of this prestigious conference, we wish to acknowledge the support that we have received from the academic community in continuing to deliver outstanding papers, as well as the heads of academic departments in the various universities who have partnered with us through the years to host the conference.

COLLABORATION AND LONG-TERM RELATIONSHIPS IN CONSTRUCTION

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ABSTRACT

There is increasingly a shift away from traditional contracting practices to collaboration and long-term relationships (CLR) contracts in the construction industry. The purpose of this article is to examine dimensions of CLR practices from a construction perspective. The research methodology employed is based on desk research. This involves the collection of secondary data on CLR practices. NVivo Pro 2011 software was used to aid analysis of the multiple articles. The findings indicate that top management commitment, a willingness to learn from and to support the parties, mutual trust, complete integration of project team members, and efficient and open communication are some of the requirements for CLR. The procurement strategies that internalise CLR practices in construction are reported to be framework contracts, partnership, and alliance contracting. However, these approaches are shown to be appropriate for specific kinds of clients, suppliers and projects. Consequently, the selection of parties to go into these procurement strategies for CLR becomes critical to achieve the benefits that CLR has been shown to deliver. This will ensure that scarce resources are only dedicated to relationships and processes that will genuinely benefit and support CLR. The knowledge and understanding generated by the study will be useful in encouraging construction stakeholders to appreciate the need for CLR practices and to embrace CLR approaches.

Keywords: alliancing, collaboration, framework contracts, long-term relationships, partnership

1. INTRODUCTION

The interest in collaboration and long-term relationships (CLR) arrangements has been one of the concerns of the construction industry in recent years. This may be attributed to the industry's response to the failings of traditional contracting practices, as a result of their characteristics, which are shown in Table 1. Thus, a shift away from traditional contracting practices to CLR contracts is advocated for the construction industry. The dominant references for this change are Latham's (1994) *Constructing the team* and Egan's (1998) *Rethinking construction* industry reports. These reports suggest a change in culture and a move towards teamwork, collaboration, and supply chain management of projects. As a result, there has been growing adoption of strategies that create an opportunity for CLR in construction. Hence, several studies exist on CLR arrangements by researchers in construction and project management studies. Some of these studies have used the compound

term “long-term collaborative relationships” to imply CLR (e.g., Donohoe and Coggins, 2016; Kumar et al., 2016; Wang et al., 2016; Chang et al., 2015; Challender et al., 2014; Meng, 2013; Ylitalo et al., 2005).

CLR practices are increasingly being adopted in the construction industry globally, owing to their success in the manufacturing and service sectors, where the strategies are seen as a vehicle to maximise value, levels of quality, and service delivery (Khalfan et al., 2014; Meng, 2013; Frödell, 2011; Naoum, 2003; Saad et al., 2002). The approach has been shown to be mutually beneficial to both clients and contractors when adopted for project delivery. However, some clients do not see it as a promising strategy, particularly during economic meltdown and recessions (Donohoe and Coggins, 2016; Challender et al., 2014; Meng, 2013). Sanchez (2012) and Saad et al. (2002) reported that CLR approaches require a longer time, more effort, resources, and commitment to develop. Also, due to power dynamics resulting from the dominance of some clients in the approach, some contractors do not embrace the approach in contract relationships (Rinkus et al., 2016; Chicksand, 2015). Furthermore, issues around contractors becoming complacent, and the inability to prosecute rights under such contracts, have been raised (Palaneeswaran et al., 2003; Black et al., 2000). These issues suggest a limited understanding of the concept of CLR practices, and a tendency to view such strategies through the lens of traditional procurement practices. This article will therefore strive to create a better understanding of the issue, by examining the requirements and practices of CLR in construction, as well as the strategies that harness CLR in the construction industry, and it will suggest that a reconceptualisation is required to rebase the premise of these strategies.

Table 1: Characteristics of traditional contracting practices

Author(s) & year	Paper title	Source	Characteristics
Akintan and Morledge, 2013	Improving the collaboration between main contractors and subcontractors within traditional construction procurement	*Journal of Construction Engineering*	Main contractors and subcontractors pursue their self-interests Mostly preferred by once-off clients Engender adversarial attitudes Prone to conflicts and disputes A lack of focus on customers’ requirements, and failure to satisfy clients’ needs Delivery processes are still mostly disconnected Contract terms are often very strictly and litigiously applied
Challender et al., 2013	Collaborative procurement: An exploration of practice and trust in times of austerity	ARCOM conference proceedings	Short-term contracts A constant quest for the lowest initial bid price Open and competitive traditional bidding
Challender et al., 2014	Partnering in practice: An analysis of collaboration and trust	*Proceedings of the Institution of Civil Engineers - Management, Procurement and*	Competitive procurement methods, based on lowest cost Risk-averse work practices They are limiting the scope for knowledge sharing across projects

		Law	They are hampering familiarisation of project teams and learning from experiences. They are reducing innovation and investment within the sector
Rowlinson and Cheung, 2004	A review of the concepts and definitions of the various forms of relational contracting	International Symposium of CIB	Adversarial in nature Contractors are selected mainly by lowest price Superintendents see their role as gatekeepers, safeguarding the client's interests
Khalfan et al., 2014	Building trust in construction projects	*Supply Chain Management: An International Journal*	Rigid flow of communication Adversarial approach to construction projects
Lloyd-walker et al., 2014	Enabling construction innovation: The role of a no-blame culture as a collaboration behavioral driver in project alliances	*Construction Management and Economics*	Tend to be risk-averse Characterised by blame and litigation Designers have the most power and influence Require each participant to look after the interests of their own organisation Involve pursuing a 'claims mentality'
Palaneeswaran et al., 2003	Curing congenital construction industry disorders through relationally integrated supply chains	*Building and Environment*	Transactional contracting approach Fragmented and disjointed transactions and processes Short-term visions Adversarial relationships Unhealthy competition Purely price-based selections Incomplete contracts Numerous change orders and claims Improper risk-shedding tactics Disputes and breaches of contract, leading to litigation Client acts as 'watchdog', with control measures (such as warning letters and penalties)
Spekman, 1988	Strategic supplier selection: Understanding long-term buyer relationships	*Business Horizons*	Clients rely on a large number of suppliers to gain price concessions Clients assume an arm's-length posture Use of only short-term contracts
Suprapto et al., 2015	Sorting out the essence of owner-contractor collaboration in capital project delivery	*International Journal of Project Management*	Confrontational interactions between owner and contractor Too much emphasis on formal mechanisms (i.e., contracts, tools, and techniques)

2. METHODOLOGY

The research methodology employed to address the aim of the study is based on desk research of publications on CLR. First, to gather relevant publications to obtain data for the study, a bibliographic survey was conducted via Scopus, using the string of words "collaboration and long-term relationships". The Scopus database was chosen because it is the largest abstract and citation database of peer-reviewed literature, consisting of scientific journals, books, and conference proceedings across various disciplines. Searching within the titles, keywords and abstracts in the Scopus database yielded a total of 749 document results on this topic from 69 countries since 1970 across several subject areas, with most of the documents (up to 90%) being published after the year 2000. However, papers which are not strongly related to the field of interest of this study and construction, such as publications on medical and natural sciences subjects, were excluded in the search. Also, on downloading some documents, other articles closely related to the topic articles were identified by the search engine and were also downloaded for the study. The final number of articles reviewed in the study was 96.

The collected articles were then imported into the NVivo Pro 2011 software, to quickly identify prominent words and phrases, as well as key concepts, across the multiple articles. In the NVivo software, the word frequency query was carried out using the 50 most frequent display words, with stemmed word settings, and then the word cloud tab was used to identify the keywords from all the text. This enables exploration of trends and ideas that are prevalent in the articles, and identification of what authors are frequently writing about on collaboration and long-term relationships. The result indicated several themes in the research area (collaboration and long-term relationships). However, the theme of interest in this study is the requirements and practices/process of CLR. So, from the several themes on the word cloud, a text search query was carried out on the themes of requirements and practices. This was followed by clicking the reference tab, upon which a list of articles with a bit of context appears. Nodes were created for these themes, and significant reports from each author were coded and saved into the nodes. (A node is a bucket in which related materials are gathered into one place, so that one can easily look for emerging patterns or ideas.) Nodes were also created for other relevant aspects of the study, namely framework contracts, partnership, and alliance contracting, which were indicated from the analysis as the practices that internalise collaboration and long-term relationships in construction. Within the nodes, other sub-nodes that were established in the study were definitions and descriptions of key concepts, benefits, requirements, and challenges. All relevant text was coded into the nodes and sub-nodes, and aspects that are of interest and are essential to the study were then integrated into the study.

3. COLLABORATION

Collaboration is defined as a mutually beneficial and well-defined relationship between two or more organisations working together to achieve common goals (Mattessich and Monsey, 1992). Wilkinson (2005) defines collaboration as a creative process undertaken by two or more interested organisations, sharing their collective skills, expertise, understanding and knowledge in an atmosphere of openness, honesty, trust, and mutual respect, to jointly deliver the best solution that meets their common goal. According to Saunders et al. (2012), collaboration means building a democratic approach to communication and decision-making when constructing, planning, taking and evaluating each action research stage or cycle. Some of the motivation for collaboration is that collaboration enables access to more resources through sharing with other parties; it allows access to new technology domains and knowledge transfer for business enhancements. (Ylitalo et al., 2005). Gadde and Snehota

(2000) suggest that collaboration is a function of the volume of business for the buying organisation. As it is a more appropriate relationship to adopt when a supplier relationship represents a major volume of business for the buyer, and, conversely, when the transaction size or volume of business is low, an arm's-length relationship may be suitable (Gadde and Snehota, 2000).

The factors that encourage collaboration between two or more organisations when working together are indicated to include top management commitment, and mutual and shared understanding about the goals of cooperation. Other factors are a willingness to learn from and to support the partner, mutual trust, complete integration, effective communication, risk and reward sharing, and a clear definition of responsibilities (Cha and Kim, 2018; Meng, 2013; Anbanandam et al., 2011; Ylitalo et al., 2005). Collaboration is found to be a suitable means of nurturing relationships among contracting parties, achieving better project performance and greater end user satisfaction (Ning et al. 2013).

Collaboration has been indicated to have the benefit of maximising efficiency, improving profitability, reducing waste, contributing to more valuable relationships, and enabling benchmarking of current levels of practice against best-in-class performers (Cha and Kim, 2018; Shepherd and Günter, 2006; Greenbaum, 2004). It creates a free and open environment, where the aim is to learn from each other and employees can air their views without hesitation, and it gives access to unique capabilities and resources to all involved (Soosay et al., 2008; Squire et al., 2006). These benefits may not be available in the traditional practices of arm's-length relationships, where parties act in self-interest, without any special obligation to the other party. Mattessich and Monsey (1992) submit that with collaboration, individual expenses can be reduced in planning, research, training, and other development activities in the early stages of a new initiative. Also, they suggest that through collaboration, overhead expenses are shared, and duplication of costs and effort is avoided. Glover (2008) submits that such an arrangement is designed to encourage a certain degree of sharing of information; therefore, it is necessary for parties to be open and honest with each other in such relationships. Thus, a collaborative working arrangement is seen as key to improved efficiency and enhanced innovation in construction (Kadefors et al., 2007). Li, L. et al. (2012) argue that with a collaborative working arrangement, there is a higher chance of buyers achieving greater success with suppliers, and it should be the right strategy for major contracts if an element of challenge, competition and value is retained in such a relationship. Collaborative working arrangements are also reported to reduce project costs and secure operational efficiencies (Tennant and Fernie, 2010). This is because of the opportunity to share costs collaboratively.

However, Lawson et al. (2006) suggest that although collaboration improves performance, it costs money in terms of coordination, communication, adaptation, and commitment to achieve it. This may hinder its adoption in times of austerity. Also, the pursuit of self-interest and the element of power dynamics in situations where clients engage for collaboration while retaining authority and responsibility makes collaborative working impossible to achieve (Akintan and Morledge, 2013; Sanchez, 2012). Therefore, clients must genuinely open up a conversation and empower people to collaborate with one another, while retaining the direction and greater effort is required in negotiating the interests of various stakeholders in collaboration (Sanchez, 2012). Nevertheless, even though the collaborative arrangement is not without risks, the gain is argued to exceed the potential risks (Spekman, 1988).

4. LONG-TERM RELATIONSHIPS

A long-term relationship, also referred to as a "strategic relationship", is a relationship that requires long-term commitment, upon which a series of projects can be delivered over a specified number of years (Filippetti and D'Ippolito, 2017; Jones and Kaluarachchi, 2007). Such relationships allow for firms to internalise the value of knowledge generated across organisational boundaries over time (Filippetti and D'Ippolito, 2017). This contrasts with the traditional practices of short-termism and discrete contracts, where new supply chain arrangements must be established for every project. Long-term relationships are suggested to be suitable for projects involving repeat clients, where the continuity of work from the client stabilises the relationship, where suppliers supply scarce or high-value products and where the complexity of the supply market is high, and where the product is of great importance to the client (Meng, 2013; Spekman et al., 1998; Kraljic, 1983).

Several previous studies report benefits associated with long-term relationships. For example, Cadden et al. (2015) submit that parties in a long-term relationship can review the credibility of one another, reward truth-telling, and penalise for breaches or defaults. Thus, long-term relationship provides the right incentive for truthful information sharing. Other studies indicate the benefits of long-term relationships to include the following: they offer stable business relationships, resulting from continuity of work; they allow for aligning specific objectives between parties, they enable the development of a particular way of working that adds value to production, and they create an atmosphere of trust and commitment. Others benefits are: they ensure the provision of technological and managerial assistance and exchange of information during the product development and production stages (Filippetti and D'Ippolito, 2017; Meng, 2013). Also, long-term relationships increase the level of cooperation in terms of coordination, participation, and joint problem solving (Mohr and Spekman, 1994).

Different industries have adopted the long-term relationship approach in delivering projects. Fujimoto (1999) asserted that in the automotive industry some clients prefer to deal with suppliers on a long-term basis. Khalfan et al. (2014) suggested that the approach can be used for providing projects such as school buildings, social housing stock, maintenance and improvement projects in the UK. Meng (2013) reported a wider acceptance of the approach in the UK for school building projects, as 33.3% of school building projects were said to have adopted the long-term relationship approach. However, they reported that the short-term, project-specific approach as practised in traditional contracting is initially employed when dealing with a contractor for the first time, so as to establish suitability for a long-term relationship. A similar practice was reported in a study on "innovative construction procurement" at the University of the Witwatersrand (Laryea and Watermeyer, 2014). This could be an expensive and high-risk selection mechanism to practise, but it indicates that good performance from the first work by a supplier provides the foundation for going into a long-term relationship. Ellram and Martha (1990) argued that paying more attention to a supplier's development potential and future plans is an essential consideration for a long-term relationship. Nevertheless, trust and openness between clients and suppliers that enable mutual learning and competency development are the significant factors that have a positive effect on the long-term orientation of the relationship (Filippetti and D'Ippolito, 2017; Bäck and Kohtamäki, 2015; Anbanandam et al., 2011; Ylitalo et al., 2005).

5. COLLABORATION AND LONG-TERM RELATIONSHIPS REQUIREMENTS AND PRACTICES IN THE CONSTRUCTION INDUSTRY

Table 2: Requirements for collaboration and long-term relationships

Author(s) & year	CLR Requirements	
Sanchez, 2012	• Having shared goals • Being involved in the process	• Having open lines of communication • Directed engagement
Saad et al., 2002	• Ability to create, manage and reshape relation-ships • Continuous learning	• Commitment from top management
Babaeian Jelodar et al., 2016	• Trust • Commitment • Teamwork • Open communication • Common goals between partners • Fair balance of risks and rewards	• Consistent objectives • Mutual trust • Clear understanding of roles and responsibilities • Clear contract • Clear decision-making mechanism
Chang et al., 2015	• Social exchange behaviour • Detailed information • Respect between parties	• Flexibility • Mutuality • Solidarity
Ylitalo et al., 2005	• Open-ness • High level of trust	
Meng, 2013	• Continuity of work • Long-term programme	
Mattessich and Monsey, 1992	• Legislation and funding to promote collaboration • Educating potential collaborators • Required resources of its members • Ability to take risks	• Being knowledgeable • Previous experience • Participatory policy development style
Frödell, 2011	• Willing-ness and capability for collaboration • Aligned core values • Parties to be approach-able, honest, and responsive • Total cost focus	• Know-ledge, along with delivery precision • Trust • Long-term orientation
Suprapto et al., 2015	• Commitment • Cooperation • Connectedness of owner and contractor striving for a common goal • Team-work	• Relational attitudes • Capability • Team integration
Challender et al., 2014	• Trust • Change in mind-set • Commitment of participants	• Greater coordination • Sufficient time to nurture relation-ship • Long-term vision
Kadefors et al., 2007	• Trust • Commitment	• Team-work
Wang et al., 2016	• Mutual trust • Commitment	• Solidarity between the buyer and the supplier

Table 2: Collaboration and long-term relationships practices

Author(s) & year	Practices
Sanchez, 2012	Interactive meetings to talk about, review, and revise norms, and to help each other learn to respect and abide by the norms Practise respect, equality, direct and intentional communication and feedback, and transparency Employees are made responsible for the good of the organisation The organisation must be respectful of individual needs and diversity Subsidiary corporations must act with the good of the entire organisation in mind Empowering subsidiary corporations to make decisions in their own best interests Involving those affected by a decision or change. Involving the subsidiary corporations in planning, problem solving, and decision-making. Based in part on the importance people place on belonging to part of a larger community Each subsidiary sees itself as part of the larger organisation. This sense of organisation-as-community engenders a desire for shared success and unity. Sincerely soliciting feedback Participants express a genuine sense of pride and joy about opportunities to help one another
Saad et al., 2002	Involve some stages, including the need to innovate, knowledge awareness, evaluation of alternative innovations, planning, and implementation Top management commitment Agreeing on mutual objectives Making decisions openly, and resolving problems in a way that was jointly agreed upon at the beginning of the project Aiming to achieve measurable improvements in performance, through incentives Promoting collaboration through leadership, facilitation, training, and incentives Replace short-term contractually driven project-by-project adversarial relationships with long-term, multiple-project relationships based on trust and cooperation Restructuring and integration of project processes and supply networks, with fewer strategic supplier partners
Black et al., 2000	Frequent communication, both formally and informally Cooperative attitudes Trust between the parties A win-win approach to negotiation Open sharing of information Multidisciplinary involvement Both the buyer and the supplier are highly dependent on each other
Lavikka et al., 2015	Co-located working

Author(s) & year	Practices
	Collaborative decision-making in inter-organisational meetings A liaison role Shared project goals
Frödell, 2011	The importance of sticking to the agreements, even if the supplier's competitors are dropping their prices Give the service suppliers the right prerequisites when they are involved in a project, because they base their pricing on them For the supplier to be able to plan and forecast, the contractor needs to invite the supplier earlier in the design phase of the project, and they must also strive to keep to the predetermined schedule, since suppliers use it to plan their work Core values: personnel are approachable, honest, and responsive Treating suppliers fairly, to avoid suppliers getting tired of clients and clients getting a bad reputation
Palaneeswaran et al., 2003	Certain approaches introduce some incentives (e.g., awards, bonuses) as motivators for good performance Each alliance partner has a higher 'stake' in the project, which leads to stronger commitment and closer bonds Checks are installed to avoid abuse and misuse of such relationships. This may be done through contractual safeguards, which need not be dismantled in the 'binding forces'.
Lloyd-walker et al., 2014	Inclusive decision-making Members jointly work to deliver project outcomes Joint member sharing of all project risks, in a no-disputes and no-blame environment, where unanimous decision-making takes place Provide no formal process for legal action, except in the case of wilful default Signatories work together in good faith, acting with integrity and making best-for-project decisions The incentivisation contract ensures that the financial reward and penalty provisions drive motivation Pool their insurances by negotiating an alliance insurance agreement, rather than separate insurance requirements, thereby reinforcing unity of purpose The terms of contract (TOC) established early in the alliance selection phase of the project represents fair and reasonable expected end costs The details of budgets and all design and delivery assumptions are openly and transparently discussed for full understanding during initial post-alliance TOC agreement workshops Innovation mainly achieves potential gain sharing from the incentivisation contract leg, and so this arrangement encourages and facilitates innovation Encourage a trade-off of the normal rights to sue parties that do not perform to expectation, such that they may inhibit parties achieving their key performance indicators (KPIs). Consensus behaviours turn power and communication imbalances to symmetrical input mechanisms, which allow consensus about a solution to emerge

Author(s) & year	Practices
	Cost control is monitored through adherence to KPIs and an open-book approach to probity and auditing
	A no-blame culture develops from these features
	The transparency and open-book approach lowers fears that any party can 'cheat' the system
	Mutual dependency binds participants closely together, because the incentive contract rewards project performance, not individual party performance
	All strive for best-for-project decisions, with an understanding that this involves trying new approaches and recalibrating efforts pragmatically when a better understanding of the context requires plans to be changed
Anbanandam et al., 2011	Top management commitment
	Information sharing
	Trust among supply chain partners
	Long-term involvement
	Risk and reward sharing
Cadden et al., 2015	Espousing characteristics of trust, cooperation, and information sharing
	Working closely together through cross-functional teams and joint away days, both at operational level and strategic management level, from creation of the relationship
	Behavioural change about how firms deal with each other in respect of pricing strategies and service level agreements is vital
Suprapto et al., 2015	Joint working
	Open and effective communication
	Clear and fair risk allocation
	Regular performance measurement
	A no-blame culture
	Quality defects can be reduced through effective problem-solving mechanisms
Spekman, 1988	Balanced power-sharing relationship
	A mutual commitment to the future
	A balanced power relationship is essential for the process
	Mutual trust nurtures commitment
	Open communication
	Both the buyer and the seller must invest in the relationship
	They represent a complex web of the less tangible issues of trust, openness, and commitment

The requirements for CLR, as well as the CLR practices, as found from the desk research conducted, are shown in Table 2 and Table 3, respectively. As is evident from these tables, CLR requirements and practices are indicated to focus on creating an enabling environment that optimises the ability of project team members to work together efficiently and collaboratively. Thus, building long-term business relationships through which a series of projects can be delivered successfully without litigation is vital. This is a fundamentally different situation from what is sought in the traditional contracting practice of one-tender-

per-project approach, where the client enters into a contractual agreement and assembles a separate supply chain for each project, with short-term relationships, and a consequent concentration of knowledge within the design team only (Ruparathna and Hewage, 2015; Watermeyer, 2012; Sinclair, 2011). Such practice is said to often result in significant opportunities for claims and inappropriate risk avoidance, and, consequently, adversarial relationships and litigation processes (Ruparathna and Hewage, 2015; Watermeyer, 2012; Sinclair, 2011).

The contracting strategies reported to internalise and provide the opportunity for collaboration and long-term relationships in construction are partnership, alliance contracting, and framework contracts (Babaeian Jelodar et al., 2016; Suprapto et al., 2015; Lloyd-walker et al., 2014; Challender et al., 2014; Mouzas and Blois, 2013; Watermeyer, 2013; Cheung, 2011; Palaneeswaran et al., 2003). These strategies are further discussed below.

5.1 Partnership

A partnership is one of the construction procurement strategies that harness collaboration and long-term relationships practices. Gale (2013) argues that the earliest form of collaboration is through partnering arrangements between parties, and several studies have described long-term relationships as the basis of partnership (Meng, 2013; Ambrose et al., 2010; Naoum, 2003). Nevertheless, partnership can also be for a short-term relationship, when it is based on a single project (Gadde and Dubois, 2010). Lambert et al. (1996) defined partnership as a "tailored business relationship based upon mutual trust, openness, shared risk, and shared rewards that yield a competitive advantage, resulting in business performance greater than would be achieved by the firms individually". The UK's National Economic Development Council (1991) defined partnership as a long-term commitment between two or more specific organisations for achieving specific business objectives, by maximising the effectiveness of each participant's resources. The Associated General Contractors of America (1991) described partnership as a way of achieving an optimum relationship between a client and a contractor. However, Cheung et al. (2003) described partnership as not a contract but an attempt to establish non-adversarial working relationships among project participants, through mutual commitment and open communication.

Several benefits of partnership are indicated in the literature. Gadde and Dubois (2010) reported the potential benefits of partnership to include increased productivity, reduced costs, reduced project times, improved quality, improved client satisfaction, and greater stability. In a study examining the potential of partnering principles for subcontractor selection and improvements in overall project outcomes, by interviewing 20 successful and unsuccessful subcontractors, Kumaraswamy and Matthews (2000) revealed that the partnership approach produces at least a 10% cost reduction in the tender price, and an increase in the cost, time and quality performances in the project. Similarly, Bennett and Jayes (1998) examined the financial benefits of partnership, and they submitted that the partnership approach can achieve savings of up to about 10% of total costs. Other benefits of the partnership approach include improved relationships among contracting parties, cost effectiveness, work efficiency, opportunities for innovation, equitable risk sharing, and less confrontation (Cheung et al., 2003; Naoum, 2003; Black et al., 2000). However, the Royal Institution of Chartered Surveyors (2005) argues that the focus of most partnership studies on success rather than failure presents an unbalanced view and a biased impression in terms of the contribution that partnering and collaborative procurement have had within the construction industry, and that these studies have therefore raised questions around reliability. Also, Morgan (2009) reported that partnering projects are often open to abuse, owing to the scale of

the commercial interests involved, such that clients may be paying far too much for their products. Cheung et al. (2003) indicate that the non-compromising tendering process, poor perceptions of the partnering process, a lack of knowledge and skills to adopt partnering, and non-commitment of partnership parties in construction undermine the benefits partnership has been shown to deliver.

The requirements essential for successful partnerships reported in the literature are commitment, trust, preparation, understanding, equity, development of mutual goals, inclusion of appropriate parties, continuous joint evaluation, use of project partnering tools and procedures, empowerment of stakeholders, evaluation methodology, and willingness to accept mistakes (Ng et al., 2002). Other requirements are mutual objectives, effective communication, continuous improvement, equality, win-win profit sharing, management commitment, a clear understanding of roles, consistency of objectives, and flexibility to change (Babaeian Jelodar et al., 2016; Chicksand, 2015; Black et al., 2000).

5.2 Alliancing

Alliancing, partnership, and framework contracts are the procurement strategies that incorporate collaboration and long-term relationships in construction. Although the term "alliancing" is often used interchangeably with the term "partnership" (Ingirige and Sexton, 2006), it refers to any arrangement in which the contractual arrangements are designed to stimulate trust by aligning commercial objectives (Broome, 2002). In the business literature, the term "alliancing" is used to refer to an arrangement between two or more suppliers (not involving buyers or clients) joining together to market, manufactures, distribute and sell their product (Broome, 2002). The important difference between alliancing and partnership is that parties share gains and losses in alliancing, while in partnerships, parties may individually gain and suffer losses (Challender et al., 2014). Thus, alliancing reflects a joint rather than a shared commitment between partners, where partner selection is based on performance, rather than only price (Raisbeck et al., 2010).

Alliancing is argued to have the potential benefit of providing an environment that maximises collaboration through joint decision-making, by employing a best-for-project and a no-blame philosophy (Lloyd-walker et al., 2014).

Although factors that contribute to collaborative working, such as trust, mutual understanding, respect, communication, problem-solution mechanisms, sharing of the risks and benefits, and having a win-win philosophy, are attributed to promoting alliancing among parties, a 'no-blame culture' is indicated to be the key requirement for the success of alliance contracting (Lloyd-walker et al., 2014).

5.3 Framework contracts

A framework contract, which may also be referred to as a "framework agreement", or an "umbrella agreement" (Mouzas and Furmston, 2008), is an agreement which is reached between two parties to cover a long-term collaborative arrangement, particularly where clients have a long-term programme of work in mind and are looking to set up a process to govern the series project or supply packages that may be necessary during the term of the framework (Glover, 2008). Mouzas and Blois (2013) describe a framework contract as a manifestation of agreements that define the fundamental principles upon which companies wish to work together. Framework contracts provide an "umbrella" contract, upon which projects are procured on a call-off basis, as opposed to traditional discrete-contract practice (Lam and Gale, 2015). Watermeyer (2012) remarked that framework contracts enable clients

to procure goods, services, and construction works on an instructed (call-off) basis over a term, without any commitment to the quantum of work instructed, and in the absence of a detailed scope of work.

Long-term relationships are submitted as the theoretical basis for the adoption of framework contracts by clients, as opposed to the arrangements in discrete contracts (Gale, 2013). This is due to the tenure period in framework contracts, which provides the opportunity for parties to the project to work together for the period of the framework agreement. Tennant and Fernie (2010) indicated the period of framework contracts to be four years, with an additional two years, subject to exceptional circumstances. The ISO (2010) specified a tenure period of three years for a framework agreement, after which unsuccessful contractors must wait for the next opportunity to present themselves for selection. It has been argued that the long period of relationship in framework contracts makes selection of the right contractor vital to ensure that continuous improvement is achieved within the period.

In describing a framework contract, some authors have associated the approach with other construction procurement strategies. For example, Gale (2013) opined that the framework contract approach might have evolved from partnering arrangements. Tennant and Fernie (2010) noted that the approach is in many ways analogous to partnering. However, Tennant and Fernie (2012) describe it as a descendant of the design-and-build procurement route. This may stem from the characteristics of the approach in providing the opportunity for integration of design and construction, through early contractor involvement at the pre-construction stage of projects, which has been one of the advantages of the design-and-build system.

Framework contracts provide the advantage of suppliers reserving capacities for their clients, making supplies cheaper and quicker, as markup is fixed for the period of the contract (Balcik and Ak, 2014). The approach is also indicated as a tool for improving performance, quality, and long-term relationships (Lam and Gale, 2015; Lacoste, 2014; Mouzas and Blois, 2013). In other words, the framework contract is used to describe an arrangement in which streams of projects can be obtained, without the need for a new tendering procedure, under certain agreed-upon conditions. The Joint Contracts Tribunal and Glover (2008) described it to be suitable when clients have a long-term programme of work in mind.

Framework contracts are apparently not intended for individual (once-off) projects and short-term relationships. The approach is best suited for long-term relationships and repeat clients. It may involve several contractors being selected for contracts over an extended period. However, to allow for price competition within a framework agreement, the minimum number of contractors to contract with when it involves more than one contractor is suggested to be three, and there is no maximum number of contractors to contract with (Mills & Reeve, 2015). However, in practice, it will be difficult to deal with a large number of contractors, due to the need to approach each of the contractors for a call-off (Mills & Reeve, 2015). Nevertheless, if framework contracts are not properly implemented, it can result in corruption, increases in costs, and exclusions (National Treasury, 2016).

6. CONCLUSION

This article creates a better understanding of CLR, by examining the requirements and the practices of CLR in construction, as well as the strategies that internalise CLR practices in the construction industry, based on desk research. In the literature review conducted, CLR was indicated to deliver several benefits to all parties involved. These benefits may not be achievable in the traditional practices of short-termism and arm's-length relationships. The literature review found that the requirements for collaboration are top management

commitment, a spirit of teamwork, flexibility, solidarity, continuity of work, litigation avoidance, shared understanding about the goals of collaboration, a clear definition of responsibilities, a willingness to learn from and to support the parties, mutual trust, complete integration of project team members, efficient and open communication, and fair risk and reward sharing. The practices that promote CLR are good performance from the first engagement, potential for development by parties, future plans of parties, so as to guarantee continuity, interactive and scheduled meetings, mutual respect, a no-blame culture, mutual trust, and all parties taking responsibility for the good of the organisation. Other practices that promote CLR include a balanced power relationship, parties being approachable, honest, and responsive, inclusive decision-making and involvement, having a sense of belonging to the larger organisation, a win-win approach to negotiation, replacing short-term contractually driven project-by-project adversarial relationships with long-term, multiple-project relationships, and openness between parties.

These requirements are different from what obtains in traditional contracting practices, as the traditional approach requires more directive functions, separation of design activities from construction, and a consequent concentration of knowledge within the design team only, with arm's-length relationships. With once-off project practices, relationships are short-term in traditional approaches, and the values of long-term relationships are thus not accessed. The study found that the procurement strategies adopted in the construction industry that internalise collaboration and long-term relationships practices are framework contracts, partnership, and alliance contracting.

Consequently, the selection of parties to go into these procurement strategies for CLR becomes critical to achieve the benefits which collaboration and long-term relationships has been shown to deliver, especially as most practitioners on both the contractor and the client sides have been trained in and are accustomed to traditional contracting practices. Parties will need to assimilate the requirements and practices that support and promote CLR, to ensure that scarce resources are only dedicated to relationships and processes that will genuinely benefit and support CLR.

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