



SUBCONTRACTING IN THE SOUTH AFRICAN CONSTRUCTION INDUSTRY; OPPORTUNITIES FOR DEVELOPMENT

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SUBCONTRACTING IN THE SOUTH AFRICAN CONSTRUCTION INDUSTRY; OPPORTUNITIES FOR DEVELOPMENT

EXECUTIVE SUMMARY

Subcontracting, including specialist, generalist, trade and labour-only subcontractors, is an integral component of the construction industry, and its importance has been increasing in the industry over the last two decades in South Africa and elsewhere around the world. As part of the cidb's role to stimulate reform and improvement in the construction sector and to promote best practice, the cidb undertook this study on the state of the subcontracting sector with a primary objective to better understand skills development within the subcontracting sector – and to identify opportunities for improving skills development within this sector.

In support of understanding skills, the study included an assessment of:

- the structure and nature of the subcontracting sector;
- management practices within subcontractors; and
- contracting practices between main contractors and subcontractors.

The study focuses on specialist, generalist and trade subcontracting practices, and excludes labour-only subcontracting practices.

Structure and Nature of Subcontracting

This study recognises that subcontracting is a business strategy that is used by main contractors to deal with uncertainties in the construction market, and allows the main contractor to reduce operating costs and thereby enhance competitiveness. Subcontracting is very prevalent in the South African construction industry, with up to 70% of building and 30% of civil construction projects subcontracted out. The most prevalent types of subcontracting are labour-only, trade contracting in the building sector and specialist subcontracting in the building and civil sectors. The duration of typical subcontracts in the building industry is between three (3) and six months (6) months with the civil sector industry having longer duration subcontracts of about twelve (12) months on average.

Subcontractors can generally be categorised into one of the following categories:

- specialist subcontractors that undertake specialist services, especially building or engineering services such as electrical, plumbing and heating, ventilating and air-conditioning (HVAC);
- generalist and specialist trade subcontractors that offer general trade or specialise on specific trades services such as painting and brickwork – many of which are general contractors that use subcontracting as a means to get work during periods of tough competition but can and often prefer to work as main contractors; and
- labour-only subcontractors; i.e. skilled tradesmen that provide labour-only services, while the main contractor provides the materials and supervision.

Main contractors have a major influence on a subcontractor's access to work opportunities, and key factors influencing a main contractor's choice of subcontractors include the subcontractor's:

- financial capability;
- track record;
- construction management systems;
- compliance with legislative requirements; and
- BEE status.

Subject to a subcontractor meeting these basic requirements, the key criterion for subcontractor selection is then the subcontractor's bid amount (or price). Relationships between contractors and subcontractors are

then predominantly long-term, and are dependent on the on-going performance of the subcontractor – including the quality of work of the subcontractor.

Most subcontractors claim not to have experienced significant problems with main contractors, and to have good working relationships with the main contractors. However, dissatisfaction with main contractors does arise because of late payments, under-payment, and where main contractors put pressure on subcontractors to reduce their price (and hence margins).

Specifically, the main contractors and subcontractors in this study all identified payment practices as the main source of conflict between the parties, with the *'pay-when-paid'* principle being singled out as chief amongst these.

Poor working relationships appear to be most prevalent in the low-income housing sub-sector due to the low profit margins which result in subcontractors bearing the brunt of tough working conditions.

Management Practices

Management practices are the backbone of any successful business, and this study has identified that:

- overall, management practices of specialist subcontractors were considered by main contractors to be good, but for generalist and trade subcontractors were considered to be fair to poor;
- financial management skills and business management systems of general subcontractors were poor, with business management skills and management and supervision being fair;
- many subcontractors, especially smaller and trade subcontractors have poor health and safety management practices; and
- many subcontractors are reluctant to train their employees.

This study identified the following key challenges faced by subcontractors that influence their performance:

- lack of security of payment;
- bid price pressure from main contractors;
- weak management practices;
- poor attitudes within subcontracting organisations; and
- general industry-wide factors, including lack of working capital, high levels of competition and skills shortages.

As strategies to overcome these factors, subcontractors typically adopt the following as key success factors in overcoming these challenges:

- quality improvements;
- facilitating access to work opportunities; and
- good relations with main contractors.

Contracting Practices

While formal contracts are generally used, contractual relations between the main contractor and the subcontractor are often governed on an ad hoc basis or by using less sophisticated documentation. The failure to sign a formal contract is generally viewed as being disadvantageous to the subcontractor. However, both main contractors and subcontractors in this survey were adamant that while the contract specifies the roles, rights and relationships between the parties, their effectiveness depends on goodwill and on the desire of the parties for collaborative working relationships. The contract should be a tool to build relationships, and not a weapon to fight the other party with. In saying so the contractors acknowledged that adversarial relationships existing within the industry are driven by tight profit margins, payment practices, lack of continuous work and traditional roles and relationships between contractors and their subcontractors.

Of concern is that this study identified that where formal contracts are not being used, reasons advanced for not using formal contracts included:

- lack of formal company registration documents on the part of the subcontractor; and
- the reluctance of main contractors to formalise agreements so as to avoid audit trails of payments.

Both the above reasons point to issues of governance and ethics.

Skills Development

The relationships between main and subcontractors have a high potential for skills transfer and for learning, and the degree and quality of skills transfer mainly depends on:

- the willingness and aptitude of the subcontractor;
- the willingness of the main contractor to pass on skills; and
- pressure/incentives from the client.

However, successful development only happens if both main and subcontractors are intent on long-term strategic relationships, as most subcontractors are reluctant to share confidential information with other companies, especially financial information.

Main contractors are however active in passing on skills in labour, health and safety, and environmental management practices, to reduce the probability of default on the part of the subcontractors as the clients hold the main contractor accountable for compliance with these regulations.

cidb Subcontractor Development Initiatives

As context to this report, it is relevant to note existing cidb policy and regulatory initiatives aimed at the development of subcontractors and improving the performance of subcontractors. Many of these initiatives target the development of contractors in general, but can, or have, a specific focus on the development of subcontractors. These initiatives include:

- i) The *cidb Standard for Indirect Targeting for Enterprises Development through Construction Works Contracts* will establish a contract participation goal (CPG) relating to the engagement joint-venture partners or subcontractors that are also to be beneficiaries of enterprise development support from the main contractor
- ii) The *cidb Standard for Developing Skills that Result in Nationally Accredited Outcomes through Infrastructure Contracts* will establish a contract participation goal (CPG) relating to the provision of different types of workplace skills development opportunities which culminate in or lead to:
 - a part qualification;
 - a national qualification;
 - a professional registration; or
 - structured work internship resulting in qualification to undertake a trade test.

The Standard will become mandatory on public sector contracts, and will provide subcontractors access to such skills development opportunities.

- iii) The *cidb Contractor Performance Reports* will provide a track record and an assessment of the performance of the main contractor with, amongst others, management of subcontractors. Such information can in time be taken into account in construction procurement on public sector contracts for the purpose of:
 - assessing the suitability of contractors for pre-qualification, selective tender lists or expressions of interest; and
 - adjudication for the award of a contract.

Main contractors are encouraged to adopt the *cidb Contractor Performance Reports* on subcontracts, which will facilitate the development of subcontractors and will provide for the development of a track record for subcontractors.

- iii) The *cidb Standard for Minimum Competence Requirements of Contractors* which sets out the minimum acceptable competencies necessary for running a contracting enterprise and for supervising building and construction works. These competencies would also be applicable to subcontractors.

Recommendations

The broad recommendations that have been identified in this study are summarised below:

- i) The *cidb* should investigate introducing requirements for a contractual arrangement to exist between main and subcontractors on public sector contracts.
- ii) The *cidb* should investigate introducing requirements for main and subcontractors to comply with minimum legislative requirements on public sector contracts, including tax and COID compliance.
- iii) In order to facilitate a consistent approach to the selection of subcontractors by main contractors, and to facilitate that subcontractors acquire a track record that can be used as a main contractor, the *cidb* should encourage subcontractors to:
 - obtain a *cidb* Grading; and
 - seek recognition on the *cidb Best Practice Contractor Recognition Scheme*.

The *cidb* should encourage main contractors to:

- adopt the use of *cidb Contractor Performance Reports* on subcontracts.
- iv) The *cidb* should expedite the draft *cidb Prompt Payment Regulations* amendments.
- v) The *cidb Requirements for H&S Management Plans* for public sector contracts that are currently being developed must extend to subcontractors, and requirements for the use of these should be expedited.

The study recognises that the *cidb* is already developing interventions that are aimed at encouraging the transfer of skills from the main contractor to the subcontractor, and in support of this the study recommends that:

- vi) The *cidb Standard for Indirect Targeting for Enterprises Development through Construction Works Contracts* and the *cidb Standard for Developing Skills that Result in Nationally Accredited Outcomes through Infrastructure Contracts* should be expedited, and that the impact of the Standard on skills development of subcontractors should be monitored.

In addition, this study recommends that:

- vii) The *cidb* and CETA should explore developing programmatic interventions for providing formal training opportunities to small contractors and to subcontractors in financial and business skills (including tendering, pricing and risk management) and in business management systems.

SUBCONTRACTING IN THE SOUTH AFRICAN CONSTRUCTION INDUSTRY; OPPORTUNITIES FOR DEVELOPMENT

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1 BACKGROUND AND INTRODUCTION

1.1 Objectives

Subcontracting is an integral component of the construction industry, and its importance has been increasing in the industry over the last two decades in South Africa and elsewhere around the world. This has an impact on the division of labour within the industry, employment and skills patterns, productivity and quality, and the industry's health, safety and environmental management practices.

As part of the cidb's role to stimulate reform and improvement in the construction sector and to promote best practice, the cidb undertook this study on the state of the subcontracting sector with a primary objective to better understand skills development within the subcontracting sector – and to identify opportunities for improving skills development within this sector. In support of understanding skills, the study included an assessment of:

- the structure and nature of the subcontracting sector;
- management practices within subcontractors; and
- contracting practices between main contractors and subcontractors.

The primary objective of this study is to better understand skills development within the subcontracting sector.

The study focuses on specialist, generalist and trade subcontracting practices, and excludes labour-only subcontracting practices. Notwithstanding this, specific experiences of labour-only subcontracting (including client requirements for using subcontractors from a particular community) are discussed in Annexure A.

1.2 Study Methodology

The study into the state of the subcontracting sector included a review of national and international literature and documentation, together with in-depth interviews with contractors and interviews with selected clients and subject matter experts undertaken in 2011.

A representative sample of cidb registered Grade 7 to 9 construction companies was identified to obtain the views of main contractors. These main contractors were then also requested to provide a sample of up to five subcontractors they had previously worked with to provide input on the subcontracting aspects. To increase the diversity of views and geographic representation of the subcontractors, a supplementary sample of subcontractors was randomly selected from the specialist contracting categories on the cidb Register of Contractors. These subcontractors were intentionally chosen from cidb Grades 3 and 4, as it was felt that enterprises in these grades are large enough to have been in the industry for a while and yet small enough to depend on subcontracting work for a significant proportion of their company turnover.

All the interviews with main contractors and subcontractors were carried out through semi-structured face-to-face interviews. A total of 14 interviews were carried out with main contractors and 38 subcontractors. Interviews were also carried out with three large clients, eight representative industry organisations and three selected construction industry experts to get further insights into the issues pertaining to subcontracting. The results of these interviews were triangulated for analysis and reporting.

A profile of the study respondents showing their cidb classes of works and number of years in business is presented in the tables below.

Respondents Areas of Specialisation			
Main Contractors		Subcontractors	
Class of Work	Number	Class of Works	Number
General Building	2	General Building	21
Civil Engineering	3	Civil Engineering	6
Electrical	2	Electrical	6
Geotechnical	1	Plumbing	4
General Building & Civil Engineering	6	Pipe-laying	1
Total	14	Total	38

The main contractors comprised of a more experienced group than subcontractors, and only three subcontractors had been in existence for more than 20 years compared to 6 out of 14 main contractors.

Respondents Years in Business		
Years in Business	Main contractors	Subcontractors
Less than 5 years	1	11
5 – 10 years	2	15
10 – 20 years	5	9
Over 20 years	6	3
Number	14	38

1.3 Structure of Report

The structure of the report is as follows:

- Section 2 provides an overview of subcontracting, including the nature of subcontracting, the value and extent of subcontracting, and the advantages and disadvantages of subcontracting.
- Section 3 discusses the selection of subcontractors from the perspective of the main contractor, which is influenced primarily by the quality and performance track record of a subcontractor.
- Section 4 discusses the contractual relationships between main and subcontractors, and notes that the effectiveness of these depends on the desire of the parties for collaborative working relationships.
- Section 5 discusses the management practices within subcontractors, which is the backbone of any successful business. The study also discusses the performance of subcontractors – from the perception of both the main contractors and the subcontractors.
- Section 6 discusses the key challenges faced by subcontractors, and opportunities for overcoming these challenges – which forms the basis of performance improvement.
- Section 7 provides a brief overview of current cidb initiatives targeting the development of subcontractors.
- Section 8 concludes with recommendations on enhancing the performance of subcontractors through skills development.

1.4 Acknowledgements

The background research for this survey was undertaken by PD Consulting, whose contribution is acknowledged. A special word of thanks is extended to George Mabutha and Prof. George Ofori for their contributions.

2 SUBCONTRACTING; AN OVERVIEW

Subcontracting is a business strategy that is used by main contractors to deal with uncertainties in the construction market and to transfer risks, such as financial risks, completion risks and responsibility for employees¹. Subcontracting reduces direct costs and overheads, and allows main contractors to use more competitive local firms with their lower overhead costs and better knowledge of the local market conditions, practices and procedures². Subcontracting further facilitates the production of quality work through the use of specialist subcontractors with the necessary knowledge and skills in specialised trades. Overall, subcontracting allows the main contractor to reduce operating costs and thereby enhance competitiveness.

Subcontracting allows the main contractor to reduce operating costs and to enhance competitiveness.

2.1 Overview

As background, three main categories of subcontractors can generally be identified in the construction sector^{3,4}:

- *specialist subcontractors*; those that undertake specialist services, especially building or engineering services such as electrical, plumbing and heating, ventilating and air-conditioning (HVAC);
- *generalist and specialist trade subcontractors*; those that offer general trade services or specialise on specific trades such as painting and brickwork– many of which are general contractors that use subcontracting as a means to get work during periods of tough competition but can and often prefer to work as main contractors;; and
- *labour-only subcontractors*; i.e. skilled tradesmen that provide labour-only services, while the main contractor provides the materials and supervision.

Furthermore, from a contractual point of view, subcontractors can be categorized as⁵:

- *domestic subcontractors*; those hired by the contractor to perform specific tasks;
- *selected subcontractors*; subcontractors solicited from a recommended list of potential subcontractors in the tender documents; and
- *nominated subcontractors*; nominated by the client or client's agent to undertake specified aspects of the main contract.

The typical subcontractor in South Africa falls into one of the categories identified above (i.e. specialist, trade, general or labour-only), and this is a major determinant of the size, management and contracting practices and the level of skills within the subcontractor. Specialist subcontractors typically have a high degree of technical and managerial competence, and many have been in the industry for a long period in their specialised category. Most of these subcontracts are awarded to nominated/selected subcontractors and thus outside of the influence of the contractor.

In contrast trade contractors carry out non-specialist work that does not require a significant amount of technical expertise, mainly in the core construction trades such as brickwork and bricklaying. These subcontractors are typically relatively new to the industry, with little business, managerial and financial skills. Where registered, these subcontractors are typically registered in the lower **cidb** grades of classification, but

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- 1 Lee, C-F. and Baldwin, A.N. (2008) *Final Report of the Construction Industry Institute, Hong Kong Research Project on Reinventing the Hong Kong Construction Industry for its Sustainable Development*, <http://repository.lib.polyu.edu.hk/ispui/btstream/10397/2371/1/Full%Report%20-Reinventing%20the%20Hong%20Kong%20Construction%20Industr.pdf>, accessed on 16 April 2011.
 - 2 Gonzalez, M., Arrunada, B. and Fernandez, A. (2000) *Causes of Subcontracting: Evidence from Panel Data on Construction Firms*, Journal of Economic Behaviour Organisation, Vol. 42, pp. 167-187.
 - 3 Hinze, J and Tracy, A (1994) *The Contractor-Subcontractor Relationship: The Subcontractors' Views*, Journal of Construction Engineering & Management, Vol. 2, No. 1, pp. 274-287.
 - 4 Ofori, G., and Debrah, Y. A. (1998) *Flexible Management of Worker: Review of Employment and Practices in the Construction Industry in Singapore*, Construction Management and Economics. 16(4), 397-408 .
 - 5 Mbachu, J. (2008) *Conceptual Framework for the Assessment of Subcontractors' Eligibility and Performance in the Construction Industry*, Construction Management & Economics, Vol. 26, pp. 471-484.

also include larger, more established construction firms with current spare capacity. These subcontractors are usually domestic and the type of work awarded to them depends on:

- the availability of work and the main contractor's workload;
- whether the main contractor has the skills and labour available to carry out the work; and
- the possibility of lower overheads, higher margins or better cash flows arising from passing on the responsibility of subcontracted works out to another party.

Labour-only and domestic subcontractors are often past employees who have left the firm and are given first priority to supervise or carry out package works on the firm's construction projects. Such subcontractors often lack all but the core construction and supervision skills, and require close management and assistance in the purchasing and management of supplies and resources.

There is often a blurred distinction between trade contractors and labour-only subcontractors – with the distinction made in the extent to which the main contractor provides materials and overall management and supervision of the works. In labour-only subcontracting the main contractor provides the materials and does most of the supervision and management of the works while trade contractors make their own arrangements regarding materials and are more responsible for their oversight.

2.2 Nature of Subcontracting

The main contractors in this study gave the following as their reasons for subcontracting out work:

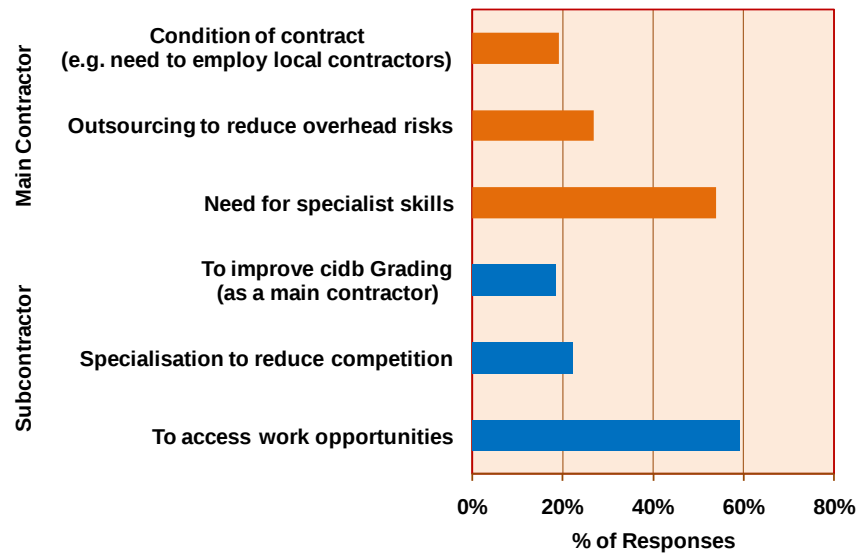
- giving specialist works to contractors who are best competent to perform it, especially where the main contractor does not have the required competence to execute the work;
- the reduction of overheads and staff requirements in an environment of increasingly stiff competition, thin margins and onerous labour employment regulations; and
- the need to comply with contract conditions stipulating the employment of local labour.

Subcontractors on the other hand are drawn to subcontracting opportunities because of the following factors:

- the need to access work opportunities in a highly competitive market;
- practicing their specialist trades that are traditionally reduced to subcontracts on major construction works, e.g. electrical and plumbing subcontractors; and
- building a track record for improving their grading on the *cidb Register of Contractors*.

Building a contractor's track record is particularly relevant to subcontractors that are new entrants into the construction industry as they strive to become main contractors and need to improve their *cidb* grading. Building a track record is also prevalent during periods of industry downturn when there is increased competition for prime contracting and companies have to sustain their overheads and track record to maintain their grading on the *cidb Register of Contractors*.

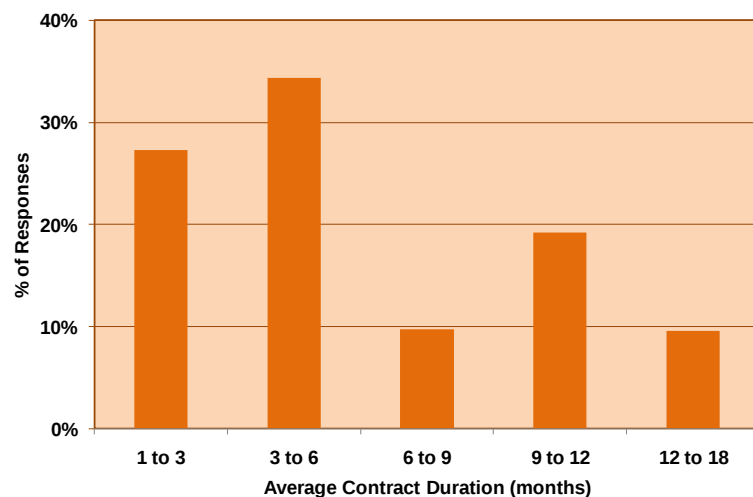
A summary of the reasons obtained from the interviews in this study for main contractors and for subcontractors to enter into subcontracting relationships is given below.



Reasons for entering into subcontracting:
Main contractors and subcontractors

2.3 Duration of Subcontracting Work

The majority of building subcontract work opportunities last less than a year with most specialist trade works like plumbing and electricity lasting between 2 and 6 months on an average sized building contract. Civil engineering subcontracts typically last longer with some taking as long as 12 months or more.



Average duration of subcontract work

2.4 Value and Extent of Subcontracting

There have been significant changes in subcontracting in the construction industry over the last two decades or so. Building projects have become more specialised, the number of specialist contractors has increased considerably. Traditional subcontracting has also changed to a type of outsourcing that is more cost-driven, and main contractors tend to focus more on core activities (tendering, planning, and management) and outsource project execution further down the chain to subcontractors^{6,7}. The net result is an expected increase in the proportion of construction work carried out by subcontractors.

6 Gray, C. and Flanagan, R. (1989) *The Changing Role of Specialist and Trade Constructors*. Chartered Institute of Building, Ascot.

7 European Commission (2010) *Drivers of Change and New Employment Patterns in the Construction Sector*.

This study confirmed an increase in subcontracting activity in the South African construction industry. Many of the contractors said they have noted an increasing trend to subcontract work out and felt that most contractors were opting to operate as management contractors tendering out the works in packages to subcontractors. They speculated that this trend is mainly driven by the project-by-project nature of the construction industry and the thin margins prevalent in the industry. It was further postulated that contractors subcontract work out to reduce overheads associated with maintaining a regular workforce, preferring to retain only a nominal complement of core staff while subcontractors did most of the work. A few contractors however felt that this phenomenon had been around for a while and was an accepted part of the industry, and the amount of work subcontracted out was neither increasing nor decreasing.

During periods of high construction activity and low competition when there is excess demand, subcontractors often cooperate and contract (mainly informally) with other subcontractors. Functionally similar (in specialisation) subcontractors may offer their services to each other and hence have a working relationship that extends beyond the typical contractor-subcontractor one.

All subcontractors note the increased competition in subcontracting and complain about the effect that this has on profit margins and as a result on quality. This has led to some opting to focus on less competitive areas such as installation of pipes, property maintenance and renovations (especially in the residential property sector), and diversification into safety equipment supply, plant and equipment hire, and transport amongst others. The subcontracting sector is being seen as too unpredictable, and returns from successful projects are often being invested into developing capabilities in these other ventures.

Increased competition in subcontracting leads to lower profit margins and as a result to lower quality.

Statistics show that main contractors are subcontracting out more work than in the past. For example, in Hong Kong, the proportion of subcontracted works increased steadily between 1983 and 2003, from about 47% of the total value of building and civil engineering contracts to 60%⁸. The trend in most countries is for building contractor to subcontract more of the works and only take responsibility for site facilitations for their subcontractors and suppliers.

In South Africa there is a scarcity of data on the overall extent of subcontracting in the industry. However, while the value of work subcontracted out is dependent on a range of factors, there is general consensus that a significant component of work is subcontracted out by building contractors. Estimates range from 55% to 80% of the value of a typical project is subcontracted out, averaging out at 70%. This is however dependent on:

- *the nature of the project*; the more complex and technically demanding the project the higher the value of work likely to be subcontracted out to those with appropriate expertise;
- *the availability of specialised skills in-house*; companies will most likely subcontract work packages where they have the least skills in their employ; for example most building contractors indicated that they subcontract the structures component of major projects to civil engineering contractors; and
- *the likelihood of making more profits* by subcontracting out rather than retaining work in the company.

In general building work, around 70% of the project value is subcontracted out. In contrast, in civil engineering works, around 20% to 30% of the project value is subcontracted out.

In civil engineering construction, subcontract work is typically lower with estimates ranging from 20% to 30% of the total project value. The reasons advanced for this are:

- *the capital intensive nature* of the sub-sector which requires contractors to acquire their own plant and equipment and subsequently maximise its utilisation on their own projects as a cost containment strategy;
- *the inability to own such plant and equipment* by smaller developing subcontractors resulting in their employment as subcontractors on less capital intensive work packages such as steel fixing, road marking, etc; and

8 Chiang, Y.H. (2009) *Subcontracting and its Ramifications: A Survey of the Building Industry in Hong Kong*. International Journal of Project Management, Vol. 27, Issue 1, pp. 80-88.

- the work subcontracted out is likely to be mostly *labour intensive and simpler in nature* requiring less specialised subcontractor skills, for example pipe and kerb laying.

2.5 Advantages and Disadvantages of Subcontracting

As described earlier, subcontracting is an industry norm that benefits both the main contractors and the subcontractors. Some of the benefits to the main contractors are:

- reduced liability for labour retention as well as reduced overheads, especially during periods of low construction activity;
- risk sharing arrangements with subcontractors for their specific work packages;
- higher quality and productivity from a core of people engaged in specialist work packages; and
- better cost control through fixed-price subcontracting.

The main contractor does however also experience some negative impacts that can arise mainly due to poor quality work from subcontractors which place added responsibility upon the main contractor to implement better supervision protocols. Where main contractors do not have sufficient construction supervision and management skills in place, concerns about the quality of work may have a negative impact on project performance and on payment schedules.

Compliance issues can also negatively impact on the main contractor, especially with health and safety where the main contractors is legally responsible and many end up having to carry the compliance costs of subcontractors who have neither the technical expertise nor the resource to invest in these legislative requirements. Some main contractors reported that their sites have been shut down because of poor compliance by the subcontractors – a situation that negatively impacts on time schedules and the overall profitability of a project.

Health and safety and quality requirements often place additional monitoring and supervision requirements of subcontractors on main contractors.

Subcontracting has also been described as an unsatisfactory practice with subcontractors reporting poor treatment and delayed payment by the main contractors as the main points of contention. Delayed payments were mentioned as the most significant shortcoming in the subcontracting relationship, especially where the main contractor uses the ‘pay when paid’ terms of contracting.

As the specialist and trade contractors operate fully autonomous companies providing their own equipment and materials, delayed payments are especially growth limiting. The subcontractors mentioned that where there are payment disputes between the main contractor and the client, the subcontractor has to carry the burden of an unusually lengthy payment cycle, a process tantamount to pre-financing the main contractor.

Delayed payments and loss of control over the construction works programme are some of the main detrimental effects experienced by subcontractors.

Subcontractors also cited the loss of control over the construction works programme or management in order to fit into the main contractors’ site programme as a further disadvantage. This often impacts negatively on productivity and profits because of time delays.

The benefits of subcontracting to the subcontractor are dependent on whether the subcontractor is a specialist, trade or labour-only subcontractor. Specialist and trade subcontractors are generally able to innovate and improve their productivity in their area of specialisation. They can improve their productivity and increase their clientele by servicing multiple clients with distinction. Training and employee development is also possible for both specialist and trade subcontractors who undertake related work for multiple clients.

The major benefit for labour-only subcontractors is that they carry minimal overheads for the work they produce. As indicated earlier labour only subcontractor mostly carry out labour intensive work packages such as the wet trades in building and kerb laying in civil construction. They also tend to be subjected to more favourable contracting conditions with many contractors indicating that they pay labour-only subcontractors as employees to reduce the financial burden on the subcontractor.

Subcontractors working in specialised fields (such as electrical and geotechnical work) accept that because of the nature of the construction industry there will always be subcontractors on major projects, but state that the advantages of working in a specialist, niche market such as reduced competition and higher profit margin outweigh the disadvantages of working as a subcontractor.

It was however interesting to note that irrespective of the size of the company, subcontractors unanimously expressed a preference for working as main contractors if the opportunity arose.

2.6 Summary

Subcontracting is a business strategy that is used by main contractors to deal with uncertainties in the construction market, and allows the main contractor to reduce operating costs and thereby enhance competitiveness.

Subcontracting is very prevalent in the South African construction industry and does not depend significantly on economic cycles with up to 70% of building and 30% of civil construction projects subcontracted out. The most prevalent types of subcontracting are labour-only, trade contracting in the building sector and specialist subcontracting in the building and civil sectors.

The duration of typical subcontracts in the building industry is between three (3) and six (6) months with the civil sector industry having longer duration subcontracts of about twelve (12) months on average.

While there are many business reasons for main contractors to subcontract work out, health and safety and quality requirements often place additional monitoring and supervision requirements of subcontractors on main contractors. On the other hand, delayed payments and loss of control over the construction works programme are some of the main detrimental effects experienced by subcontractors.

3. SELECTION AND EMPLOYMENT OF SUBCONTRACTORS

3.1 Selection of Subcontractors

According to the international literature there are five main ways in which subcontractors are selected by the main contractor⁹:

- *single sourcing*, where the main contractor has only one subcontractor for a specific trade, and the subcontractor is often fully integrated into the main contractor's business;
- *preferred subcontractors* a practice in which the main contractor selects three or four subcontractors for a specific trade;
- *specialist subcontractor* are selected when the main contractor knows the subcontractors who can undertake specialist works, and uses them whenever required;
- *long lists subcontractors* are used where the main contractor has selected a number of subcontractors for each trade, and gets them to compete with each other in order to obtain the lowest price; and
- *open tender* where the main contractor looks for new subcontractors through open bidding. Main contractors who already have preferred subcontractors may occasionally use this approach to test the market and also put pressure on their subcontractors to reduce their prices and/or take on more risk.

Because the most predominant procurement system in South Africa is based on making lowest price or price and preference, subcontractor selection in South Africa is largely on the basis of lowest tender – resulting in the main contractors' preference to choose subcontractors based on lowest price. Notwithstanding this, the quality and performance track record of a subcontractor is very important in the selection of a subcontractor.

The selection of a subcontractor by the main contractor is influenced significantly by the quality and performance track record of the subcontractor.

The main contractors in the study typically keep a database of subcontractors whom they have worked with in the past and have been satisfied with the quality of their work. The size of the databases varies from over 1 000 to less than 100 among the different contractors. Enrolment onto these databases is usually not exclusive and most contractors continuously consider applications from subcontractors by looking at:

- *financial capability* as evidenced by bank statements, available financial guarantees, etc.;
- the *quality* of previous work done, and/or client and consultant recommendations;
- presence of *company systems* including business, health and safety, and quality management systems;
- levels of *compliance* with industry regulations; and
- *Black Economic Empowerment* (BEE) status.

When tendering for work, most contractors solicit quotes from subcontractors on their database. Due to the extremely competitive nature of the industry and the emphasis placed by clients on the tender price, the key criterion for subcontractor selection is their bid amount.

Where quotes are solicited from subcontractors other than those on the database, contractors indicate that they consider the subcontractor's performance based on previous work done, financial stability and ability to secure bonds, level of experience, processes for ensuring quality and safety, health and safety record, and even BEE credentials but this does not underscore the importance of price as a selection criterion.

One of the contractors was new to the South African market, and because of their lack of previous working relationships relied mainly on recommendations and introductions from associates in and out of the construction industry, and on subsequent site visits, review of company profiles and interviews with referees. This had however, in their opinion, led to some "disastrous" results and they were looking forward to building up a list of reliable subcontractors based on their own experiences.

9 Eriksson, P. E., Dickinson, M. and Khalfan, M. M. A. (2006) *Client-led Subcontractor Involvement – A Way to Increase Value Creation and Innovation?*, Construction in the 21st Century: Local and Global Challenges, Joint 2006 CIB W65/W55/W86 symposium Proceedings (Eds. Pietroforte, R., De Angelis, E. and Polverino, F.), Rome, Italy, 18 – 20 October 2006.

Recommendation: To facilitate a consistent approach to the selection of subcontractors by main contractors, and to facilitate that subcontractors acquire a track record that can be used as a main contractor, the cidb should encourage subcontractors to:

- obtain a cidb Grading; and
- seek recognition on the cidb *Best Practice Contractor Recognition Scheme* (see Section 5).

The cidb should encourage main contractors to:

- adopt the use of cidb *Contractor Performance Reports* on subcontracts (see Section 5).

3.2 Maintaining Relationships; A Contractor's Perspective

The quality of work delivered by subcontractors affects the project performance and thus the reputation, competitiveness and profitability of the main contractor – and subcontractor selection is therefore very important to a main contractor. There is usually a mutual relationship between subcontractors and their main contractors that normally extends beyond one project and is based on mutual trust and past working experience between the two parties¹⁰. A subcontractor that performs well will likely be included among the shortlist of bidders and have the privilege of the first option to bid on future project.

Main contractors tend to shortlist subcontractors that consistently deliver quality work.

The respondents in this study confirm that their contractor-subcontractor relationships are predominantly long-term, with advantages accruing to both parties. For main contractors, good relationships with their subcontractors reduce the risk of poor quality work as well as cost and time overruns. The subcontractors benefit through being afforded preferential status when bidding for work as well as support and guidance during the construction process. In some cases the main contractors say this extends to financial and supply chain assistance during contract execution and even skills transfer and training, but this is only for specific instances and at the behest of the subcontractor.

Most main contractors therefore have preferred subcontractors with whom they have similar work ethics, close partnerships and good relations. Approximately half of the main contractors have also established relationships with emerging contractors as a business strategy and/or either as part of their corporate social responsibility or as an effort to achieve their construction charter requirements and to improve their (BEE) rating. The targeted companies are assisted with technical and management skills and training, financial management on projects and tendering.

Work ethics, close partnerships and good relations are important factors influencing the preferred status of subcontractors.

The subcontracting arrangement normally continues for the long term, especially where the main contractor enrolls the subcontractor as part of their corporate social investment and BBE beneficiaries. Subcontractors are however retained for as long as they meet certain conditions that include consistently producing good quality work as this has a significant impact on the contractors' reputation, performance and ultimate profitability.

Main contractors further mentioned that they terminate relationships with subcontractors when they begin overpricing their work.

Other reasons for which main contractors decide not to continue a working relationship with subcontractors are, in order of frequency:

- not paying their labour – most likely when dealing with labour brokers;
- disputes about payment – especially where the 'pay when paid' clause is in place;
- poor performance on site health and safety; and
- poor track record in managing cash flows resulting in the inability to complete their apportioned work.

¹⁰ Lim, K H (2003). *Construction Subcontracting in Singapore*. In Ofori, G., Ling F.Y.Y. (eds.), *Proceedings of CIB Working Commissions W55, W65 and W107 International Symposium-Knowledge Construction*. National University of Singapore, Singapore.

Because of such experiences most contractors factor in a risk premium and will sometimes pay a premium and use a subcontractor with a higher bid price but better track record.

Most contractors will use a subcontractor with a higher bid price but better track record.

One contractor interviewed also mentioned that he had decided never to use labour brokers on their sites.

3.3 Maintaining Relationships; A Subcontractor's Perspective

Most subcontractors claim not to have experienced significant problems with main contractors, and to have good working relationships with the main contractors. Where subcontractors are not satisfied with the main contractor, the major complaint has been late payments and under-payment. From the survey undertaken, this appears to be more prevalent on private sector projects than on public sector projects, where the public sector client is perceived as providing protection to subcontractors.

The most prevalent concerns of subcontractors are:

- *late and under-payments by main contractors; and*
- *pressure by main contractors for subcontractors to lower their prices.*

Some contractors reportedly have the tendency of trying to maximise their profit margins by capitalising on the subcontractor's need for work and therefore putting pressure on them to lower their prices, while others are generally fairer and try reaching satisfactory margins for all parties.

Bid shopping – a practice where a main contractor uses one subcontractor's prices for tender and then look for cheaper options on winning the tender – does occur in the construction industry. The subcontractors in the study however were adamant that they would not work with main contractors who engaged in such practices. They further indicated that bid shopping leads to many subcontractors going out of business, and that it is an unsustainable business practice. According to the respondents bid shopping arises because of:

- pressure on main contractors to win work at the lowest price; and
- greed and a short term view of the contracting relationship that leads the main contractors to passing on low profit margins to subcontractors, and hope the subcontractor carries the financial loss for producing work of the required quality.

Bid shopping is viewed by main contractors and subcontractors as being unacceptable and unsustainable.

While confirming that bid shopping does occur in the industry the responding main contractors unequivocally stated that they did not engage in the practice as it was unsustainable. They stated that it quickly become apparent to subcontractors if a main contractor practices bid-shopping, damaging the contractor's reputation, and ultimately subcontractors refusing to bid for such a contractor.

Other issues affecting the relationship between main and subcontractors include:

- main contractor not supplying building materials on time where this is part of the agreement;
- the perception that main contractors were out to maximise their profits at the expense of the subcontractors by 'squeezing' them, especially when there are changes to the scope of work; and
- the perception that main contractors preferred to take over subcontractor's skilled labourers and pay them a weekly wage.

Poor working relationships are most prevalent in the low-income housing sub-sector due to the low profit margins which result in subcontractors bearing the brunt of tough working conditions. Main contractors on housing projects are seen as 'middlemen' between the public sector (the client) and subcontractors as they are mostly construction managers and the bulk of the work is subcontracted down at very low profit margins.

3.4 Summary

Poor working relationships are not in the interest of either the main contractor or the subcontractors, and key factors influencing a main contractor's choice of subcontractors include the subcontractor's:

- financial capability;
- track record;
- construction management systems;
- compliance with legislative requirements; and
- BEE status.

Subject to a subcontractor meeting these basic requirements, the key criterion for subcontractor selection is then the subcontractor's bid amount (or price).

The relationships between contractors and subcontractors are predominantly long-term, and are dependent on the on-going performance of the subcontractor – including the quality of work of the subcontractor.

While most subcontractors claim not to have experienced significant problems with main contractors, and to have good working relationships with the main contractors, dissatisfaction does arise because of late payments, under-payment, and main contractors putting pressure on subcontractors to reduce their price (and hence margins). Poor working relationships appear to be most prevalent in the low-income housing sub-sector due to the low profit margins which result in subcontractors bearing the brunt of tough working conditions.

While contractors acknowledge that 'bid-shopping' does occur in the industry, it is acknowledged that this is both unethical and unsustainable.

4. CONTRACTUAL ISSUES BETWEEN MAIN AND SUBCONTRACTORS

4.1 Forms of Contracts

The *cidb Standard for Uniformity* prescribes the standard forms of contract that may be used in the construction industry. Most of these standard forms of contract also have specific subcontracting versions which mirror the terms of the main contract to provide for the fair and equitable treatment of subcontractors.

International literature suggests that while standard subcontract forms are available, these are not always used, and the contractual relations between the main contractor and the subcontractor are often governed on an ad hoc basis or by using less sophisticated documentation¹¹. The failure to sign a formal contract is generally disadvantageous to the subcontractor because it normally results in a one-sided relationship given the dependence of the subcontractor on the main contractor for work. There is also the risk of asymmetric information as the main contractor is likely to have knowledge of issues hidden from the subcontractor (e.g. specifications and design issues), and extracts from the tender documentation sent to the subcontractor for bidding purposes may miss out key salient clauses.

Findings from the present study indicate a disparity between the responses of main contractors and subcontractors on the use of standard contract documents for subcontracts. All main contractors said they insisted on the signing of subcontract agreements before commencement of work, and the prevalent contract documents used were:

- FIDIC, New Engineering Contract (NEC) and General Conditions of Contract (GCC) for civil engineering work, and
- JBCC for building work.

The type of contract varied depending on the client and type of work and in rare instances the SAFCEC and MBA conditions of contract for subcontractors were used.

However, only two thirds of the subcontractors interviewed stated that they signed formal contracts with the main contractors, using either:

- standard forms of contract, with the JBCC as the most popular; or
- contracts drawn up by the main contractor's lawyer covering both parties, i.e. modified standard contracts.

Most large construction companies interviewed insist on signed contracts before the commencement of work. However, only two thirds of subcontractors interviewed stated that they signed formal contracts with the main contractors.

Recommendation: The *cidb* should investigate introducing requirements through the *cidb Best Practice Project Assessment Scheme* for a contractual arrangement to exist between main and subcontractors on public sector contracts. These subcontract agreements should be in line with the *cidb Best Practice Guideline D1: Subcontracting Arrangements*

Main contractors stated that they modified clauses in the standard conditions of contract for a number of reasons such as:

- special project requirements mandated by the client/design team/regulations, especially those that deal with health and safety;
- to clarify payment terms, in particular:
 - to assert the rights of the contractor not to pay subcontractors when they have not received payments which include the subcontractor's claim from the client; and
 - to clearly lay out conditions under which interest will be paid and how it will be calculated;

11 Lowe, J. (2009) *An Analysis of the Changing Structure of the Contractor in the UK Construction Sector using New Institutional Economics*, Proceedings - RICS COBRA Research Conference, September 2009, Cape Town.

- to adjust the terms of contract to reflect the subcontractor's responsibility for unconditionally fixed contract price; and
- to reflect the non-acceptance of partial completion on design and build contracts.

The subcontractors who do not sign contracts with the main contractors stated that they relied on trust and verbal agreements. The reasons advanced for the lack of formal contracts include:

- the small size of the jobs and short duration of works which was assumed to render contracts unnecessary;
- preferring to base their relationship on trust;
- lack of formal company registration documents on the part of the subcontractor; and
- the reluctance of main contractors to formalise agreements so as to avoid audit trails of payments.

Reasons for the lack of formal contracts include:

- a lack of formal company registration documents of the subcontractor; and
- to avoid audit trails of payments.

Recommendation: The cidb should investigate introducing requirements through the cidb *Best Practice Project Assessment Scheme* for main and subcontractors to comply with minimum legislative requirements on public sector contracts, including tax and COID compliance.

Several subcontractors also indicated that appointment letters and bills of quantities were often used in lieu of contracts, but these are also seen as disadvantageous to the subcontractor as they make it easy for the main contractor to hire and fire subcontractors.

Both main and subcontractors were however adamant in the survey that while the contract specifies the roles, rights and relationships between the parties, their effectiveness depends on goodwill and on the desire of the parties for collaborative working relationships. The contract should be a tool to build relationships, and not a weapon to fight the other party with. In saying so the contractors acknowledged that adversarial relationships existing within the industry are driven by tight profit margins, lack of continuous work and traditional roles and relationships between contractors and their subcontractors. It is also instructive to note that few of the amendments to the contract conditions specifically attempt to improve working relationships between the main contractors and subcontractors.

Ideally a construction subcontract should only address the project risk that is directly related to the subcontractor's work. However main contractors often pass on more risk to the subcontractors than is appropriate given their scope of work. The key construction subcontract clauses that are frequently the subject of disputes are:

- payment provisions that allow main contractors to withhold payment for a number of reasons such as perceived poor subcontractor performance, main contractor insolvency or slow payments from employers;
- warranties, either contractual or by implication, and the duration and breadth of these warranties;
- scope of work, especially when drawings or specifications are incomplete or change substantially; and
- provisions relating to compensation and time extensions for delays not of the subcontractor's fault.

A construction subcontract should only address the project risk that is directly related to the subcontractor's work. Main contractors should not pass on more risk to the subcontractors than is appropriate given their scope of work.

In the cidb Best Practice Guideline D1 for Subcontracting Arrangements¹², the cidb identified clauses that were deemed unfair and unacceptable in subcontracting agreements, including clauses:

- with 'pay-when-paid', or 'pay-if-paid' payment conditions;
- giving the main contractor a right of set-off not provided for in the law;
- giving rights to the main contractor without recourse to independent adjudication in the event of disputes;
- providing for dispute resolution procedures that do not provide for inexpensive alternatives;

¹² cidb (2004) *Best Practice Guideline D1: Subcontracting Arrangements*. Construction Industry Development Board, March 2004, www.cidb.org.za.

- that allow for unreasonable retention percentages and periods of retention after completion; or
- that have conditions which are more onerous than those which exist in the principal contract.

On the other hand, contracts that give the subcontractor rights more favourable than those the main contractor has under the principal contract or that conflict with the principal contract are also inherently unfair.

All the contractors in the study had experienced what they consider as an inordinate number of disputes arising from subcontracting arrangements and all put this down to the adversarial nature of subcontracting. According to one contractor, the key reason for this adversarial relationship is because contract documents are mainly drawn up by lawyers who adopt a risk-transferring, defensive, rather than a risk-apportioning, proactive approach. The NEC contract is rated highly by those who use as it is perceived to encourage mutual trust, cooperation and quick, informal dispute resolution compared to other standard contract documents.

The cidb Contractor Performance Reports; Management of Subcontractors

The *cidb Best Practice Project Assessment Scheme* aims to introduce requirements for *cidb Contractor Performance Reports* for main contractors on all public sector contracts that will provide a track record and an assessment of the performance of the main contractor with, amongst others, management of subcontractors. Included in this assessment is whether the main contractor adopts a recognised form of contract with its subcontractors and whether payments were made in accordance with the contract. Such information can in time be taken into account in construction procurement on public sector contracts for the purpose of:

- assessing the suitability of contractors for pre-qualification, selective tender lists or expressions of interest; and
- adjudication for the award of a contract.

Indicator	Prompt for judgement			
	Poor (-1)	Adequate (0)	Good (1)	Excellent (2)
MANAGEMENT OF SUBCONTRACTORS				
Skill and commitment in managing subcontractors	• Selection of subcontractors on basis of lowest price only • Use of punitive subcontracts, including 'pay when paid' clauses	• Subcontractor selected on basis of ability and quality of service as well as price • Use recognised forms of contract • Payments made in accordance with contract	• Regular use of small number of preferred subcontractors in each trade • Payments made in accordance with contract • variations to contract agreed upon on reasonable basis	• Partnering / alliancing style arrangements in place • Sub-contractors give contractor priority when taking on work • Declared policy for fair dealing, acknowledged in practice by business partners
	x	x	x	x

4.2 Payment Conditions and Practices

Construction contracts frequently include payment provisions that define the conditions of the two basic payment types namely, progress payments where the main contractor makes payments to subcontractors based upon the percentage of work completed and final payments upon completion and acceptance of the work and receipt of payment from the client.

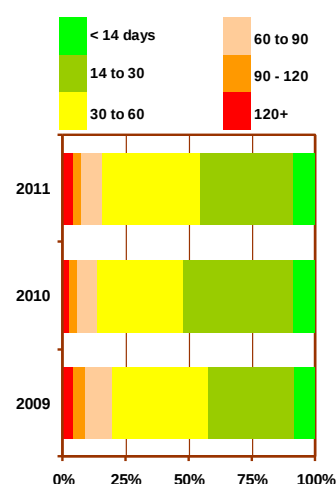
The main contractors and subcontractors in this study all identified payment practices as the main source of conflict between the parties. Sixty percent of the subcontractors claimed to have experienced some form of payment delay from the main contractors not linked to any fault on the part of the subcontractor. This was further acknowledged as one of the key determinants of successful relationships between main and subcontractors, with subcontractors reluctant to work with main contractors with a reputation for not paying on time.

Payment practices are one of the main sources of conflict between contractors and subcontractors.

The typical payment practice in the industry is the ‘pay-when-paid’ principle with the conditions of contract guiding the period between main contractors receiving their payment from clients and paying the subcontractors. The ‘pay-when-paid’ contract terms are very unpopular amongst subcontractors but they acknowledge that this is standard practice in the construction industry.

Notwithstanding this, the ‘pay-when-paid’ principle is in part a response to the payment practices adopted by clients – in which clients themselves often do not comply with the payment conditions specified in their own contract documents. Specifically, the 2012 cidb Construction Industry Indicators¹³ (CIIs) highlight that only 45% of payments to contractors were made within 30 days after invoicing.

As contractual obligations between the main contractor and the subcontractor reflect those between the main contractors, and the client and most contractors’ profit margins are very low and cash flows tight, contractors often only pay subcontractors if they have been paid by the client. Given the low profit margins in the industry, cash flow management is a critical success factor and any delays in the payment process have significant effects on subcontractors who as small companies are more vulnerable to cash flow delays.



Payment Delays of Contractors

The decision to pay the subcontractor is sometimes a project-specific decision determined by site managers. This is especially so when project finances are ring-fenced and delays in paying subcontractors might positively affect the main contractor cash flows. While most contractors identified this as a common occurrence, none admitted that they carried out this practice.

Noting that retention payments are uncommon within subcontract agreements, ‘pay-when-paid’ is also seen as a risk management strategy by some contractors. Specifically, some main contractors contend that the ‘pay-when-paid’ principle is often used to mitigate the risk of poor quality workmanship arising after payment for a subcontractor’s (often specialised) work. This view does not however seem to be justified, and it is argued that unless the ‘pay-when-paid’ principle is completely eliminated from the industry, the dispute between main and subcontractors over payment will remain.

Larger contractors are reportedly better at paying on time. Many small contractors note that it is difficult or even unreasonable to expect them to fund the project by paying subcontractors when they had not been paid. The general feeling was that it is only the cidb Grade 8 to 9 contractors that could reasonably afford to pay subcontractors before receiving payment from the client.

13 cidb (2012) *The cidb Construction Industry Indicators Summary Results*, Construction Industry Development Board, March 2004, www.cidb.org.za.

It was further noted that upfront payments are very rare and on a case-by-case basis to financially challenged subcontractors with a good working relationship with their main contractor. Most main contractors state that they are sympathetic when it comes to smaller, less established subcontractors and are willing to be flexible with payments in the interest of satisfactory project completion should the subcontractor be under financial pressures. The 'pay-when-paid' principle does not apply to labour-only subcontractors who are generally treated in this case as employees.

It is interesting to note that legislation has been introduced in countries such as Australia, New Zealand, Singapore, and the United Kingdom to enforce the right of subcontractors and suppliers to receive payments irrespective of whether the main contractor has been paid. Such legislation also allows subcontractors and suppliers to claim interest on late payments, suspend work, and to claim a right of lien, and render invalid any 'pay-when-paid' clauses in construction contracts.

The cidb Prompt Payment Regulations

The cidb is currently proposing amendments to the CIDB Regulations that include requirements for 'prompt payment'. These draft amendments:

- prohibit conditional payment provisions – such as 'pay when paid' provisions – except under a situation of business rescue or insolvency;
- entitle contractors and subcontractors to progress payments – including entitlement to submit monthly progress payments where a construction works related contract does not provide for regular and reasonable intervals on which progress payments must be made;
- regulate that the date on which payment becomes due and payable is the date determined in the contract, which may not be later than 30 days after the date on which the contractor or subcontractor has submit an invoice or tax invoice;
- provide for interest payable on the unpaid amount of a progress payment that has become due and payable; and
- provide for requirements for a adjudication process to resolve disputes – such as delayed payments.

It is anticipated that the cidb Prompt Payment Regulations could be enacted in 2013.

Recommendation: The cidb should expedite the draft cidb Prompt Payment Regulations amendments.

4.3 Management of Retentions

While the withholding or retention of a portion of each progress payment owed to contractors and subcontractors throughout the construction project is on the wane, it is still used as a method of protecting the employer from the risks of overpayment, defective work, and contractor insolvency, and as an incentive for contractor performance. Employers retain a percentage of each progress payment to their contractors who in turn withhold a similar amount from their subcontractors until certified completion of the project¹⁴. The retention amount typically ranges from 5% to 10% of the value of the work done.

In subcontracting the challenge arises when the amount retained on a project exceeds the profit margin the subcontractors was hoping to earn on that particular project, a common occurrence as the typical subcontractor profit margin are between 3% to 4%¹⁵. The final retention payment can also be held up for a long while after the project has been completed, causing financial hardships to subcontractors.

Retentions and similar features such as bonds and sureties, and payment periods, are according to the contractors surveyed not critical issues in South Africa. All are seen as industry-standards and taken to be part of the generally accepted conditions that all contractors should work within.

¹⁴ Brandon, P. S. (1990) *Quantity Surveying Techniques: New Directions*, Oxford: BSP Professional Books.

¹⁵ McCord, P. J. (2010) *Subcontractor Perspectives: Factors that Most Affect their Relationships with General Contractors - A Pacific Northwest Study*, Unpublished MSc Thesis, Washington State University.

4.4 Dispute Resolution

Most subcontractors in the study stated they had not experienced any disputes with the main contractors but should they arise, their preferred dispute resolution mechanism would be negotiation. Notwithstanding this, a few subcontractors indicated however that because of the relative power of the main contractor, negotiations is rarely entered into in case disputes arise.

The contracts governed by appointment letters only also have provision for settlement of dispute, which encourage negotiation in good faith and provide for the appointment of parties to settle the disputes if negotiations fail.

Furthermore subcontractors are confident that where written contracts are in place disputes can be resolved according to the contract even though this has not been put to the test. Whether this is because of the self-proclaimed good relations between the parties or because subcontractors are reluctant to confront main contractors is hard to establish conclusively.

4.5 Risk Sharing

One of the major reasons subcontracting is attractive to main contractors is that it allows main contractors to reduce uncertainties in the construction process and pass risk on to the subcontractor. This assumes of course that the subcontractor has the ability to handle some of these risks better than the main contractor. Contractual documents are the main tools used for managing the allocation of these risks, and the standard forms of contract try to allocate risk equitably between the parties.

Subcontracting can also become a potential source of risk to the contractor because of delays, poor quality and non-completion of work on the part of the subcontractor. These may hinder the contractors' ability to meet project quality, cost and time considerations and could result in penalties and client dissatisfaction.

In this study opinion is equally divided on the fairness of risk allocation between the main contractor and subcontractor, with 21 subcontractors feeling risk allocation was fair and 18 of the opinion that it was not. Those who felt that risks were fairly allocated considered that the main issues in construction lay with quality of work, and all parties were equally responsible for ensuring their work was of acceptable quality. In addition construction contracts governing risk allocation were seen as clear and straightforward, including specification and payment terms, and as such subcontractors could not claim after signing that the clauses were unfair.

A number of subcontractors however felt that the main contractors used their positions to place more financial risk on subcontractors by pressurising them to reduce their tender prices through negotiation. In addition main contractors are faulted for not always providing plans or specifications to subcontractors on time and for passing on schedule pressures to subcontractors despite schedule delays not being of the subcontractor's making.

Recommendation: The cidb and CETA should explore developing programmatic interventions for providing formal training opportunities to small contractors and to subcontractors in tendering, pricing and risk management.

4.6 Summary

While formal contracts are generally used, contractual relations between the main contractor and the subcontractor are often governed on an ad hoc basis or by using less sophisticated documentation. The failure to sign a formal contract is generally viewed as being disadvantageous to the subcontractor.

Both main contractors and subcontractors in this survey were however adamant that while the contract specifies the roles, rights and relationships between the parties, their effectiveness depends on goodwill and on the desire of the parties for collaborative working relationships. The contract should be a tool to build relationships, and not a weapon to fight the other party with. In saying so the contractors acknowledged that adversarial relationships existing within the industry are driven by tight profit margins, payment practices, lack of continuous work and traditional roles and relationships between contractors and their subcontractors.

Specifically, the main contractors and subcontractors in this study all identified payment practices as the main source of conflict between the parties, with the *'pay-when-paid'* principle being singled out as chief amongst these.

Of concern is that this study identified that where formal contracts are not being used, reasons advanced for not using formal contracts included:

- lack of formal company registration documents on the part of the subcontractor; and
- the reluctance of main contractors to formalise agreements so as to avoid audit trails of payments.

Both the above reasons point to issues of governance and ethics.

5. MANAGEMENT PRACTICES OF SUBCONTRACTORS

The cidb Register of Contractors and the cidb Best Practice Contractor Recognition Scheme

The *cidb Register of Contractors* and the *cidb Best Practice Contractor Recognition Scheme* which are currently being developed will encourage the performance improvement of contractors, and will provide for a consistent assessment of a contractor's capabilities and track record. Although targeting main contractors, subcontractors should be encouraged to obtain a *cidb* Grading and (in time) obtain recognition on the *cidb Best Practice Contractor Recognition Scheme*. Furthermore, main contractors should be encouraged to use *cidb* registered subcontractors, and to adopt the *cidb Contractor Performance Reports* for subcontractors.

Specifically:

- i The *cidb Register of Contractors* evaluates and grades a contractors' financial capability – which can also be used for subcontractors.
- ii The *cidb Best Practice Contractor Recognition Scheme* will introduce the *cidb Standard for Contractor Performance Reports* that will provide a track record and an assessment of the performance of a contractor with respect to the following project parameters:
 - time management;
 - cost management;
 - quality management;
 - health and safety management;
 - management of site conditions; and (where relevant)
 - management of subcontractors (including payment).

The contractor performance reports will also include a record of any breaches of contract (including those resulting in the termination and/or cancelation of a contract) as well as non-compliance with mandatory *cidb* Best Practices.

These *cidb Contractor Performance Reports* can also be used for subcontractors.

- iii The *cidb Best Practice Contractor Recognition Scheme* is introducing recognition of a *cidb/SANS Standard for Construction Management Systems* (CMS) targeting contractors in Grades 5 to 9 that is based on recognisable industry minimum standards covering:
 - health and safety management;
 - quality management; and
 - environmental management (covering air, water, land and waste).

This *cidb/SANS Standard* would also be relevant to larger subcontractors, and would facilitate main contractors assessing and evaluating subcontractors.

- iv The *cidb Best Practice Contractor Recognition Scheme* will provide for an assessment of the competencies of a contracting enterprise, and are measured against minimum acceptable standards necessary for running a contracting enterprise and for supervising building and construction works within the fields of:
 - business management;
 - building and construction management (operational and supervision);
 - building and construction technology; and
 - legislative issues.

This *cidb Standard for Minimum Competence Requirements of Contractors* would also be relevant to subcontractors, and would main contractors assessing and evaluating subcontractors.

5.1 Health and Safety Practices

The construction industry has a poor safety record and is considered one of the most hazardous industries globally¹⁶, and there is evidence that recent changes in industry structure and the increasing use of subcontracting has led to deteriorating conditions in occupational health and safety¹⁷. Furthermore, anecdotal evidence indicates that small contractors and subcontractors working on their projects, emerging contractors, as well as the majority of housing contractors tend to address H&S to a lesser degree than do the medium to large, and large contractors and subcontractors working on their projects¹⁸.

Subcontractors in this study generally perceived their health and safety management practices to be at a higher standard than the main contractors rated the subcontractor's health and safety management practices. Among the subcontractors interviewed, only two felt that their health and safety management practices were not satisfactory, but both also indicated that they hired qualified and skilled practitioners as and when such services were needed, especially for risk assessments. The rest of the respondents felt that their health and safety practices were satisfactory. In contrast most main contractors were of the opinion that many subcontractors, especially smaller generalist and trade subcontractors have poor health and safety management practices.

Most main contractors were of the opinion that many subcontractors have poor health and safety management practices.

Recommendation: The cidb *Requirements for H&S Management Plans* for public sector contracts that are currently being developed must extend down to subcontractors, and requirements for the use of these should be expedited.

Main contractors take a highly participatory approach regarding health and safety and are closely involved in assisting subcontractors to develop their risk assessment and safety plans. They state that compliance to health and safety regulations is extremely important to most clients and therefore performance is non-negotiable. Many contractors will therefore take on the responsibility for ensuring health and safety on sites, including providing protective and preventive equipment to subcontractors. Most subcontractors were in agreement and further stated that health and safety compliance is one aspect where main contractors transfer their knowledge and systems without reservation.

Main contractors generally transfer their health, safety and environmental knowledge and systems to subcontractors.

5.2 Environmental Management Practices

Client pressure plays a significant role in driving environmental management issues in construction, with Eskom and Transnet cited as the two companies that have particularly stringent environmental management requirements. Because main contractors are held responsible for performance on environmental management, rather than risk penalties main contractors pass on their skills and systems to their subcontractors. Consequently, most contractors feel that they take an active role in implementing environmental management practices, and in ensuring that subcontractors have the necessary skills to implement such practices.

5.3 Management and Supervision of Construction Works

It is well acknowledged in construction that subcontracting leads to difficulties in control and coordination that can result in low quality products as contractors have little direct control over the quality of subcontractors' work.

16 cidb (2009) *Construction Health and Safety in South Africa; Status and Recommendations*. Construction Industry Development Board, June 2009. www.cidb.org.za.

17 Flanagan, R. and Norman, G. (1993) *Risk Management and Construction*, Blackwell Scientific, Oxford.

18 cidb (2009) *Construction Health and Safety in South Africa; Status and Recommendations*. Construction Industry Development Board, June 2009. www.cidb.org.za.

The typical South African subcontract agreements incorporate clauses and provisions for minimum quality standards that are similar to those in the main contract. Some clients however go further than this in which, for example, the South Africa National Roads Agency Limited's (SANRAL) procurement procedures state that a responsibility of the contractor is a requirement to institute a quality assurance system applicable to subcontractors.

The majority of subcontractors feel their technical construction and construction management skills are good, and highlight the quality of their work and successful completion of construction projects as evidence thereof. Some subcontractors also state that they employ highly skilled workers with the necessary skills to ensure quality products. For example, one subcontractor stated that:

"We had been informal sub-contractors for a number of years before registering our own company, we sharpened our skills over the years and the quality of our work is good".

A quarter of the subcontractors surveyed have undergone some form of training in construction technical skills and/or management with most training received from the Construction Education and Training Authority (CETA), the National Home Builders Registration Council (NHBRC), Mvula Trust, the Master Builders Association (MBA), and the South Africa Federation of Civil Engineering Contractors (SAFCEC). Amongst the trade contractors that have received formal training are those who have been trained to degree or diploma level, with some having national trade certificates.

Notwithstanding the weaknesses of subcontractors, very few subcontractors in fact expressed a need for further training for themselves, although most would like training for their workers.

5.4 Labour Management Practices

With the rise of subcontracting both locally and internationally, there have been corresponding changes in the labour practices in the construction industry. For example the outsourcing of labour through subcontractors has severely diminished the influence of trade unions and the collective bargaining process in the industry, resulting in lower wages and increased non-compliance with legal and employment obligations¹⁹. Furthermore, research shows that many subcontractors do not provide their employees with written employment contracts and do not therefore register them for unemployment benefits²⁰.

Many subcontractors are reluctant to contribute financially to worker training, and find it time consuming and expensive to allow workers time off to attend training programmes.

Local and international literature shows that training and skills development also suffer as a result of subcontracting. Many subcontractors consider training as a consumption item and are therefore reluctant to contribute financially to worker training. Subcontractors also find it time consuming and expensive to allow workers time off to attend training programmes²¹ – although most subcontractors interviewed in this survey expressed the view that they would like to access training for their workers.

The subcontractors interviewed in the survey expressed the view that they are reasonably satisfied with their labour management practices, with most claiming not to have experienced any labour disputes. Most subcontractors interviewed report to have acquired their labour management skills from working with main contractors on site, while CETA, NHBRC and SEDA are all credited with providing training in this area. Only one contractor credits the knowledge acquired from a labour management skills course offered by a technical college.

Three subcontractors have outsourced their labour management to private sectors labour management companies.

19 Horwitz, F. M. (2000) *Report of the Commission Investigating the Effects of Sub- Contracting on Collective Bargaining in the Building Industry in the Western Cape*, Master Builders & Allied Trades Association and Building Industry Bargaining Council.

20 English, J. and Mbuthia, G. (2004) *An Assessment of Current Subcontracting Options in South Africa: the Employers' Perspectives on Transition*, Joint CIB International Symposium, Singapore, www.bdg.nus.edu.sg/ickc, p119-131.

21 van Huysteen and Chege (2001) *Country Case: Study of Construction, South Africa*, CSIR, Pretoria.

5.5 Overall Rating of Subcontractors' Management Practices

Management practices are the backbone of successful businesses. It was therefore important to assess the main contractors' perception of the subcontractor's management practices. There were discrepancies regarding the subcontractors' management practices with the subcontractors rating their practices better than what was perceived by the main contractor. The specialist subcontractors and specialist trade subcontractors were shown to have overall better management skills than the generalist subcontractors who were rated as poor in financial and general business management and fair in supervision by the main contractors. It is however important to note that all subcontractors' technical skills were rated as good – which bodes well for the quality of work they produce.

Overall, main contractors rate the financial management skills, business management skills and business management systems of generalist subcontractors as fair to poor.

Table 3: Assessment of Subcontractors by Main Contractors

	Specialist subcontractors	Generalist subcontractors
Financial management skills	Good	Poor
Business management skills	Good	Fair
Technical construction skills	Good	Good
Management and supervision of construction works	Good	Fair
Labour practices and knowledge of regulations	Good	Good
Business management systems (credit control, materials management, payroll etc.)	Good	Poor

The cidb Standard for Enterprise Development through Construction Works Contracts

The *cidb Best Practice Project Assessment Scheme* aims to introduce requirements for the *cidb Standard for Indirect Targeting for Enterprises Development through Construction Works Contracts* which establishes a contract participation goal (CPG) relating to the engagement of targeted enterprises on a contract for the provision of construction works coupled to the enterprise development, which will become mandatory on public sector contracts.

The Standard requires that the contractor shall perform a needs analysis on all targeted enterprises (including targeted subcontractors) and provide internal mentorship which improves the targeted enterprise's performance in at least two developmental areas. Such developmental areas should be guided by the requirements of the *cidb Best Practice Contractor Recognition Scheme* as well as the *National Contractor Development Programme* (NCDP) exit requirements for accreditation of contractors, and may include but are not limited to:

- management and labour skills transfer;
- establishment of administrative systems;
- establishment of cost control systems;
- establishment of construction management systems and plans (health and safety, quality and environmental);
- planning, tendering and programming skills transfer;
- business skills transfer with emphasis on entrepreneurial and negotiation skills;
- technical skills transfer with emphasis on innovation;
- legal compliance;
- procurement skills transfer;
- establish credit rating/history;
- establish financial loan capacity/history; and/or
- contractual knowledge transfer.

It is anticipated that the requirements for enterprise development on public sector contracts will be introduced in 2013.

Generally, subcontractors are seen as helpful and keen on working well with main contractors as well as committed to the contracting relationship. They are however perceived as unwilling to learn from main contractor's construction and technical knowledge, business skills and systems, and do not cooperate on risks sharing on construction projects. Again, this varies from subcontractor to subcontractor – with some very keen to learn and develop with help from the main contractor.

Recommendation: The cidb and CETA should explore developing programmatic interventions for providing formal training opportunities to small contractors and to subcontractors in financial and business skills (including tender, pricing and risk management) and in business management systems.

5.6 Summary

Management practices are the backbone of any successful business, and this study has identified that:

- overall, management practices of specialist subcontractors were considered by main contractors to be good, but for generalist and trade subcontractors were considered to be fair to poor;
- financial management skills and business management systems of general subcontractors were poor, with business management skills and management and supervision being fair;
- many subcontractors, especially smaller and trade subcontractors have poor health and safety management practices; and
- many subcontractors are reluctant to train their employees.

This study also indicates that, overall, main contractors are reluctant to share their systems and practices with subcontractors other than where strict client compliance requirements make this an imperative (such as for environmental and health and safety management).

6. IMPROVING SUBCONTRACTOR PERFORMANCE

6.1 Key Challenges Facing Subcontractors

Both main and subcontractors acknowledge that subcontractors face many severe challenges in executing their work, more so than the main contractors themselves. The key challenges noted were:

- i) *Lack of security of payment:* Delayed payments, whether from the main contractors or from the client, are seen as the most critical issue facing subcontractors in the industry. As many subcontractors are small companies that often rely on prompt payment to maintain their cash flows and work progress, delayed payments often delay progress, causes problems with suppliers and in some cases result in bankruptcy. Main contractors are not obliged to provide payment guarantees or surety for subcontractors as they rarely receive these themselves from the client. The 'pay-when-paid' practice that is prevalent in the industry affects subcontractors more as they "cannot absorb the punches that main contractors can".
- ii) *Bid price pressure from main contractors:* The high competition in the industry results in many contractors pricing their tenders low to win work and then seeking ways to make profits from on-going projects by squeezing subcontractors to the lowest possible bid price. These low margins often result in poor quality work, time delays, disputes, and losses on projects. Bid shopping is viewed by main contractors and subcontractors as being unacceptable and unsustainable – and is not practiced by leading main contractors and subcontractors.
- iii) *Weak management practices:* Many subcontractors have weak management practices, especially financial and cash flow management and generally lack business systems affecting their ability to execute work successfully. Contractors were quick to point out that there were clear distinctions between the specialist, usually more established subcontractors who carry out trades such as concreting and tiling and the generalist subcontractor. The more specialised subcontractors often have sophisticated and well established business management systems lacking amongst generalist subcontractors.
- iv) *Poor attitudes:* A number of subcontractors, many of whom are often new entrants into the industry, have a materialistic attitude and "are only in it to make a quick buck". Main contractors feel this is wrong as it leads to cutting corners on technical quality, poor treatment of labour and suppliers and is ultimately unsustainable. According to the contractors poor attitudes are however not exclusive to the subcontractors, but are symptomatic of the entire construction industry.
- v) *General industry-wide factors:* There are several other issues that affect contractors in the industry, irrespective of whether they are main or subcontractors, although they tend to impact more on subcontractors. These include:
- lack of working capital;
 - very high levels of competition in the industry arising from low barriers to entry and the current downturn in construction activity; and
 - skills shortages – main contractors have largely passed on labour responsibilities (sourcing and managing labour) to subcontractors, who are thus more acutely affected by the skills shortages prevailing in the industry.

The cidb is currently proposing amendments to the CIDB Regulations that include requirements for 'prompt payment'. It is anticipated that the cidb Prompt Payment Regulations could be enacted in 2013.

The key challenges outlined above are dependent on both external and internal factors, and possible mechanisms for addressing or alleviating these challenges are discussed in the further subsection below.

6.2 Key Success Factors

The construction industry is very competitive and because of the low barriers to entry many entrepreneurs have looked to construction. The industry is also overwhelmed with small contractors who perceive construction as a highly profitable industry. Notwithstanding this, the *cidb Quarterly Monitor*²² and a more detailed study on the rate of growth of contractors undertaken by the *cidb*²³ however shows that the rate at which contractors upgrade is generally low, and few contractors manage to grow the size of their companies and progress to a substantially higher *cidb* grading.

When asked to define the key factors behind their success as contractors, the most commonly cited factor by main contractors was their previous track record and reputation for quality. Similarly, most subcontractors however ascribe their growth to gradual improvement in the quality of the work that they carry out.

Quality of work is one of the most important factors for the success of subcontractors.

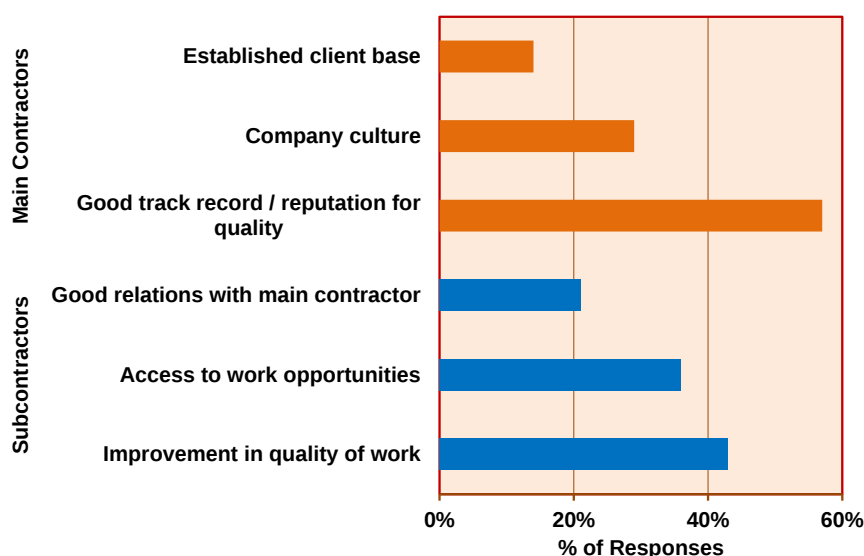
Another commonly cited success factor was access to work opportunities, as without such work there can be no improvement and mobility on the *cidb Register of Contractors*. The public sector is seen by most small contractors as the main source of their work, and thus the main reason they progress. Main contractors with whom subcontractors have a close relationship are also seen as significant contributors to their growth and progression.

The lack of work opportunities is in fact the main hindrance to the growth of contracting companies and this is intensified among subcontracting enterprises. The nature of the work carried out also contributes to poor growth prospects as many subcontractors carry out small jobs that do not enable them to apply for higher *cidb* grades. This is exacerbated by the absence of formal contracts which denies subcontractors the chance to use such projects as references for future work.

A lack of track record for reference purposes limits the access of subcontractors to further work opportunities.

Recommendation: The *cidb* must encourage main contractors to adopt the *cidb Standard for Contractor Performance Reports* (see Section 5) as a management tool for use with subcontractors – which would facilitate the development of subcontractors and which would also facilitate the development of a track record for subcontractors.

Other recurring factors mentioned were a good company culture; (as driven by the founding member) and established client bases (in this case, from the parent organisation).



Reasons for Success; Main and Subcontractors

22 *cidb* (2012) *cidb Quarterly Monitor*. Construction Industry Development Board. www.cidb.org.za.

23 *cidb* (2011) *The Construction Industry as a Vehicle for Contractor Development and Transformation*. Construction Industry Development Board. www.cidb.org.za.

6.3 Knowledge and Skills Transfer

Subcontractor/contractor relationships have a high potential for transfer and learning, but international experience suggests that this rarely happens without deliberate effort^{24,25}. In most instances the knowledge transfer process is however incidental, un-structured and implicit.

As expected, the quality of the subcontractor/contractor relations directly influences the extent and type of knowledge transferred. The better the relationships, the more the rate of transfer and also tacit knowledge – as opposed to explicit knowledge – is often only transferred through good interpersonal relations. Knowledge transfer is also directly influenced by the frequency of contracting with each other, the organisational settings and the actors involved (specifically, their personal relationships, levels of experience and cognitive distance). Knowledge transfer through subcontracting needs an integrated team approach where both organisations share their knowledge and responsibility for execution of assigned tasks, and a mentor-protégé relationship is the most effective in knowledge transfers especially for tacit knowledge²⁶.

The knowledge transfer that takes place between contractors and subcontractors falls largely in one of four categories:

- *financial knowledge* such as tendering, cash-flow management, and preparing payment claims;
- *managerial knowledge* including resource management, time and workflow management, health and safety management, supply chain management;
- *technical knowledge* specific to the project; and
- *technology transfer* incorporating design skills, construction techniques, materials or equipment techniques and capacities, business systems, production systems, and procurement systems.

According to the contractors surveyed, the degree of main contractor assistance to subcontractors varies widely but all successful examples of such interactions have two obvious but essential components namely:

- a desire on the part of the subcontractor to ‘be developed’; and
- a contractor with a drive to develop subcontractors that is an integral part of their company culture.

Typically, emerging contractors are the main focus of such subcontractor development efforts. However, successful development only happens if both main and subcontractors are intent on long-term strategic relationships, as most subcontractors are reluctant to share confidential information with other companies, especially financial information. It is also hard to convince subcontractors to accept assistance unless they are performing poorly on projects. Contractors also acknowledge the risks in passing on knowledge to potential competitors or those who may work with such competitors as subcontractors, and thus prefer to provide assistance where they have well-established relationships (described as collaborative partnerships by some) or a clear social objective, such as community development. Subcontractors who do not fall into the above categories and who display areas of need are simply not used again.

However, successful development only happens if both main and subcontractors are intent on long-term strategic relationships.

The main reasons that main contractors help subcontractors develop their companies and improve their business practices are:

- where it is this is part of the company’s long term strategy;
- where it is this is part of the company’s declared corporate social responsibility mandate;
- to meet the company BEE scorecard targets; and

24 Ofori, G., Pin, T., Leong C. and Lean C. (1999) *Do Foreign Contractors Help Host-Country Construction Industries To Develop? Case of Singapore*, in D. Tindiweni and U. Bagampadde (Eds) Proceedings, CIB Task Group 29 (TG 29): Construction in Developing Countries, Kampala, Uganda June 25-26, 1999.

25 Martin, L. (2010) *Knowledge Transfers in the South African Construction Industry: Focus on Civil Engineering Contractors*, Unpublished PhD dissertation, Cape Peninsula University of Technology.

26 Devapriya, K. and Ganesan, S. (2002) *Technology Transfer through Subcontracting in Developing Countries*, Building Research and Information, Vol. 30 no. 3 pp. 171-182.

- to ensure that subcontractors meet project and client requirements on the project in terms of PPE and health and safety requirements – main contractors indicated that on some projects managing risk in terms of health and safety at the site is crucial and costly and they therefore assist subcontractors to meet the stringent client demands.

Where knowledge transfer takes place, this occurs in a wide range of areas and the most commonly cited are:

Where knowledge transfer does take place, this occurs in a wide range of areas.

- compliance with policy and regulatory issues for health and safety, such as PPE and compliance training;
- construction project management and delivery skills;
- dealing with suppliers and developing trade relationships, purchasing, supply chain management;
- financial management including managing cash flows and assistance by providing working capital to the subcontractors;
- general site management;
- construction techniques to comply with client requirements; and
- soft issues relating to perspectives, behaviour, and policy.

Specialist subcontractors, as expected, experience the least amount of skills transfers from main contractors as their work is more specialised and they are more likely to be conversant with the latest technologies and skills in their area of specialisation.

It was also stated that skills and knowledge transfer takes place informally, with areas of potential weaknesses and desired intervention identified by the relevant site personnel. Many contractors also mentioned that they attempt to identify areas where subcontractors may need help through prequalification assessments that are performed prior to placing them on their subcontractor database.

While it is hard to gauge the direct impact of the assistance that main contractors provide subcontractors, most contractors are convinced they have contributed to the skills development of emerging subcontractors in the industry. Contractors also concede that they are not specialised training providers and so may not have the impact they expect or desire. Most subcontractors also confirm that skills transfer does take place from the main contractor to the subcontractor, but that in most cases this is informally through observation and absorption of practices. The degree and quality of skills transfer mainly depends on:

The degree of knowledge transfer that takes place depends on:

- *aptitude of the subcontractor;*
- *the willingness of the main contractor to pass on skills; and*
- *pressure/incentives from the client.*

- the willingness and aptitude of the subcontractor;
- the willingness of the main contractor to pass on skills; and
- pressure/incentives from the client.

There are several examples of main contractors having formal programmes intended to pass on skills to subcontractors. These are mainly carried out by large contractors and in the areas of occupational health safety, environmental practices, quality management, labour issues and project planning. They are mostly aimed at passing on the main contractors established practices so that subcontractors can measure up to these with minimum of supervision. Some main contractors also provide mentoring on site, including advice on systems like; project planning, stores control etc. It was stated that because of the demands on the time these mentoring sessions are few and not formally structured.

While several main contractors, and predominantly large contractors, having formal programmes intended to pass on skills to subcontractors, many other main contractors are seen as reluctant to pass skills on to subcontractors because of the time and effort involved.

However, many main contractors are seen as reluctant to pass skills on to subcontractors because of the time and effort involved, preferring instead to work with 'readymade' subcontractors. In addition some subcontractors feel that main contractors perceive them as future sources of competition and are thus wary of passing on their knowledge. However, respondents felt that if subcontractors wanted to learn there were a lot of skills that main contractors could pass on.

Public sector clients are highly regarded by subcontractors as they often provide assistance, directly or indirectly in the production of project plans, health and safety plans, etc. The Johannesburg Roads Authority (JRA) was specifically mentioned as having an excellent model for encouraging main contractors to transfer skills to smaller subcontractors, though no further details could be established.

While many public sector projects have contract provisions for training on site, subcontractors are of the opinion that main contractors pay lip service to these provisions and little effective training takes place. Short contract durations, the difficulty of getting appropriately skilled trainers, the difficulty of agreeing on the field of training, the view that project training budgets are an easy source of project financing, and the lack of follow-up by contract administrators all contribute to such training not taking place. The subcontractors contend that it is difficult to enforce skills transfer, either formally or informally, as there are always loopholes to be exploited and because learning depends entirely on the attitude of the subcontractor. In addition, a large proportion of the subcontractors feel that it is difficult to teach some skills such as business management saying that it depends on personal aptitude and acumen.

While expressing the desire for more skills acquisition, the majority of subcontractors feel that formal training for themselves and their staff would be more effective than measures to encourage skills transfer from main contractors. However, some subcontractors also note that they are discouraged from offering training to their staff because they often leaves for the larger (main) contractors who can pay better salaries after training.

Recommendation: The cidb and CETA should explore developing programmatic interventions for providing formal training opportunities to small contractors and to subcontractors.

An often neglected source of skills for transfer on construction sites are the clerks of works/site agents and consultants. A number of subcontractors credit site agents with providing them with valuable information on how to improve their methods and operations and constant informal mentoring on site. Subcontractors also value the feedback from site meetings in developing their own skills.

6.4 Technology Transfer

According to contractors, very little technology transfer takes place in the South African construction industry, for the following reasons:

- it is difficult to identify the technology to be transferred as most commonly used construction technology is widespread and available to all;
- possession of specialised technology is often viewed as a competitive advantage; and
- such technology is often only applicable on very specialised project and rare installations.

Contractors with operations in other countries corroborate the assertion that there is little difference between South African and international practice on construction projects, so little need to necessitate technology transfer in subcontracting. There were no clear examples provided where main contractors had succeeded in transferring technology or systems to subcontractors, amongst all the interviewed respondents.

6.5 Legislative and Policy Interventions

International experience suggests that legislative and policy interventions around subcontracting aim to improve the environment within which subcontracting take place, forms of contract and to improve the organisational aspects of subcontracting firms. Furthermore, contractor registration is a method used to improve the subcontracting environment, and authorities in Hong Kong and Singapore construction industries have attempted to address multi-layer subcontracting through subcontractor registration schemes.

Within South Africa, many public sector projects have requirements to encourage local economic development and to oblige contractors to adhere to various policy and regulatory conditions such as local employment, socio-economic targets such as training and skills development, and Black Economic Empowerment (BEE). Contractors feel that such requirements on projects have worked well especially in creating employment, but are very hard to sustain in the current economic and construction industry climate where projects are hard to come by. In addition, such policies have implications for the clients on tender prices, and monetary constraints may thus affect compliance.

The BEE Scorecard is rated highly by contractors for encouraging subcontractor development, and the Construction Charter recognised as a positive force for industry development.

The BEE Scorecard is rated highly by contractors for encouraging subcontractor development, and the Construction Charter recognised as a positive force for industry development.

Furthermore, client interventions can play an important role in the development of subcontractors, and two clients that have been identified in this survey as having policies in place that actively encourage subcontractor development are Ekurhuleni Metropolitan Municipality and Eskom. Ekurhuleni Metropolitan Municipality insists on approving any subcontractors utilised in the execution of their projects to ensure that local economic development is part of their projects and local community development occurs. Eskom is keen on issues of safety, health and environmental protection and requires main contractors to take responsibility for subcontractors.

However, an opinion expressed by contractors is that clients should not be involved in the main contractor/subcontractor relationship, as this would in any case be hard to enforce if both contractors were not keen. The contractors argue that incentives which emphasise good quality work offer better prospects for subcontractor development, but may be counter-productive if they focus on the bottom line and emphasise price at the expense of quality.

6.6 Summary

Key challenges faced by subcontractors include:

- lack of security of payment;
- bid price pressure from main contractors;
- weak management practices;
- poor attitudes within subcontracting organisations; and
- general industry-wide factors, including lack of working capital, high levels of competition and skills shortages.

On the other hand, subcontractors identified the following as key success factors in overcoming many of these challenges:

- quality improvements;
- facilitating access to work opportunities; and
- good relations with main contractors.

To overcome the challenges faced by subcontractors, subcontractor/main contractor relationships have a high potential for skills transfer and for learning, and the degree and quality of skills transfer mainly depends on:

- the willingness and aptitude of the subcontractor;
- the willingness of the main contractor to pass on skills; and
- pressure/incentives from the client.

However, successful development only happens if both main and subcontractors are intent on long-term strategic relationships, as most subcontractors are reluctant to share confidential information with other companies, especially financial information.

7. CIDB SUBCONTRACTOR DEVELOPMENT INITIATIVES

As context to this report, it is relevant to summarise existing cidb policy and regulatory initiatives aimed at the development of subcontractors and improving the performance of subcontractors – many of which have already been introduced elsewhere in this report. Many of these initiatives target the development of contractors in general, but can, or have, a specific focus on the development of subcontractors. These initiatives include:

- i) The *cidb Standard for Indirect Targeting for Enterprises Development through Construction Works Contracts* will establish a contract participation goal (CPG) relating to the engagement joint-venture partners or subcontractors that are also to be beneficiaries of enterprise development support from the main contractor
- ii) The *cidb Standard for Developing Skills that Result in Nationally Accredited Outcomes through Infrastructure Contracts* will establish a contract participation goal (CPG) relating to the provision of different types of workplace skills development opportunities which culminate in or lead to:
 - a part qualification;
 - a national qualification;
 - a professional registration; or
 - structured work internship resulting in qualification to undertake a trade test.

The Standard will become mandatory on public sector contracts, and will provide subcontractors access to such skills development opportunities.

- iii) The *cidb Contractor Performance Reports* will provide a track record and an assessment of the performance of the main contractor with, amongst others, management of subcontractors. Such information can in time be taken into account in construction procurement on public sector contracts for the purpose of:
 - assessing the suitability of contractors for pre-qualification, selective tender lists or expressions of interest; and
 - adjudication for the award of a contract.

Main contractors are encouraged to adopt the *cidb Contractor Performance Reports* on subcontracts, which will facilitate the development of subcontractors and will provide for the development of a track record for subcontractors.

- iii) The *cidb Standard for Minimum Competence Requirements of Contractors* which sets out the minimum acceptable competencies necessary for running a contracting enterprise and for supervising building and construction works. These competencies would also be applicable to subcontractors.

However, this study has noted that while subcontractor/main contractor relationships have a high potential for skills transfer and for learning, and the degree and quality of skills transfer mainly depends on:

- the willingness and aptitude of the subcontractor;
- the willingness of the main contractor to pass on skills; and
- pressure/incentives from the client.

Furthermore, this study notes that successful development only happens if both main and subcontractors are intent on long-term strategic relationships, as most subcontractors are reluctant to share confidential information with other companies, especially financial information.

The impact of these cidb interventions therefore needs to be monitored closely, to ensure that the desired skills development does taken place.

Recommendation: The cidb Standard for Indirect Targeting for Enterprises Development through Construction Works Contracts and the cidb Standard for Developing Skills that Result in Nationally Accredited Outcomes through Infrastructure Contracts should be expedited, and that the impact of on skills development of subcontractors should be monitored.

8. SUMMARY AND WAY FORWARD

The objective of this study has been to identify opportunities for improving skills development within this sector. In support of this, the study included an assessment of:

- the structure and nature of the subcontracting sector;
- management practices within subcontractors; and
- contracting practices between main contractors and subcontractors.

8.1 Performance Improvement

This study identified the following key challenges faced by subcontractors that influence their performance:

- lack of security of payment;
- bid price pressure from main contractors;
- weak management practices;
- poor attitudes within subcontracting organisations; and
- general industry-wide factors, including lack of working capital, high levels of competition and skills shortages.

As strategies to overcome these factors, subcontractors typically adopt the following as key success factors in overcoming these challenges:

- quality improvements;
- facilitating access to work opportunities; and
- good relations with main contractors.

The broad recommendations that have been identified in this study are summarised below:

- i) The cidb should investigate introducing requirements for a contractual arrangement to exist between main and subcontractors on public sector contracts.
- ii) The cidb should investigate introducing requirements for main and subcontractors to comply with minimum legislative requirements on public sector contracts, including tax and COID compliance.
- iii) In order to facilitate a consistent approach to the selection of subcontractors by main contractors, and to facilitate that subcontractors acquire a track record that can be used as a main contractor, the cidb should encourage subcontractors to:
 - obtain a cidb Grading; and
 - seek recognition on the cidb *Best Practice Contractor Recognition Scheme*.

The cidb should encourage main contractors to:

- adopt the use of cidb *Contractor Performance Reports* on subcontracts.
- iv) The cidb should expedite the draft cidb *Prompt Payment Regulations* amendments.
 - v) The cidb *Requirements for H&S Management Plans* for public sector contracts that are currently being developed must extend down to subcontractors, and requirements for the use of these should be expedited.

8.2 Skills Transfer

This study notes that subcontractor/main contractor relationships have a high potential for skills transfer and for learning, and the degree and quality of skills transfer mainly depends on:

- the willingness and aptitude of the subcontractor;
- the willingness of the main contractor to pass on skills; and
- pressure/incentives from the client.

However, successful development only happens if both main and subcontractors are intent on long-term strategic relationships, as most subcontractors are reluctant to share confidential information with other companies, especially financial information.

The study recognises that the cidb is already developing interventions that are aimed at encouraging the transfer of skills from the main contractor to the subcontractor, and these include:

- The cidb *Standard for Indirect Targeting for Enterprises Development through Construction Works Contracts* will establish a contract participation goal (CPG) relating to the engagement joint-venture partners or subcontractors that are also to be beneficiaries of enterprise development support from the main contractor
- The cidb *Standard for Developing Skills that Result in Nationally Accredited Outcomes through Infrastructure Contracts* will establish a contract participation goal (CPG) relating to the provision of different types of workplace skills development opportunities which culminate in or lead to:
 - a part qualification;
 - a national qualification;
 - a professional registration; or
 - structured work internship resulting in qualification to undertake a trade test.

The Standard will provide subcontractors access to such skills development opportunities.

In support of the above, this study recommends that:

- vi) The cidb *Standard for Indirect Targeting for Enterprises Development through Construction Works Contracts* and the cidb *Standard for Developing Skills that Result in Nationally Accredited Outcomes through Infrastructure Contracts* should be expedited, and that the impact of on skills development of subcontractors should be monitored.

In addition, this study recommends that:

- vii) The cidb and CETA should explore developing programmatic interventions for providing formal training opportunities to small contractors and to subcontractors in financial and business skills (including tendering, pricing and risk management) and in business management systems.

These training interventions should align with the cidb *Standard for Minimum Competence Requirements of Contractors* which sets out the minimum acceptable competencies necessary for running a contracting enterprise and for supervising building and construction works.

ANNEXURE A: LABOUR-ONLY SUBCONTRACTING

While the present study specifically excluded labour-only subcontracting, it is relevant to refer to some experiences with labour-only subcontracting – including experiences in requirements for using subcontractors appointed from a community. The information provided here has been supplied by Charmaine Groves, Managing Director of the SA Business Resources Institute, whose inputs are gratefully acknowledged. The information is based on interactions obtained from subcontractor forums in Scottsdale with Calgro in the Western Cape.

- i) Labour-only subcontractors are reliant on the timely delivery of materials from the main contractor in order to perform, but often the material is not provided in time, although their labourers would be on site and still needed to be paid. In many cases this has a significant impact on the expenses incurred by the subcontractors, without the ability to claim payment as they were not able to perform, as the conditions of contract (where these exist) may not provide for this. Labour-only subcontractors expressed the view that in instances where subcontractors are not able to perform due to the main contractor failing to provide material, the main contractor should pay for downtime.

The experience above reinforces:

- (Item 8.1.i) the need for a contractual arrangement to exist between main and subcontractors on public sector contracts; and
 - (Item 8.2.iv): the need for formal training opportunities to small contractors and to subcontractors in financial and business skills (including tendering, pricing and risk management).
- ii) Where subcontractors from the community are being used as part of an empowerment program, particular difficulties are often experienced, such as:
 - a) there is often no negotiation on price and the subcontractors have to accept the price or rates offered – with significant impact on the subcontractor’s ability to perform;
 - b) subcontractors are often not screened for skills and experience, and some labourers may never have even worked in construction before, resulting in the following problems in the developments reported on here:
 - those with industry experience queried why a skills levy was being deducted from their claim, but no skills development was being provided;
 - none of them understood the process with regard to UIF, Skills Levy, PAYE deductions, nor were they able to track what they were being paid in relation to their contract; and
 - most did not even understand their contract; and
 - c) Subcontractors themselves often have no knowledge of legal and regulatory requirements and processes, or what recourse they have under the law.
 - d) Many subcontractors do not know about waste control processes, how to do their own financials and projections, determine what labour they need, the difference between turnover and profit, regulatory compliance requirements.
 - e) Some subcontractors had not even registered a company or knew what to do to comply with tax and labour regulations.

The experience above reinforces:

- (Item 6.1.ii): price pressure often being applied by the main contractor on the subcontractor – which may be worsened in nominated subcontracts and requirements for community employment;
- (Item 8.2.iv): the need for training opportunities to small contractors and to subcontractors in financial and business skills (including tendering, pricing and risk management) – and the need for the client to introduce requirements to educate and train the subcontractors where appropriate in the case of nominated subcontractors or requirements for community employment; and
- (Item 3.2): poor working relationships appear to be most prevalent in the low-income housing sub-sector due to the low profit margins which result in subcontractors bearing the brunt of tough working conditions;

Note also that the cidb has also produced a publication *The 3Rs Basic Guide For SMEs* (August 2004) which provides help on basic issues around construction contracts, and also helps contractors become aware of all stages of the process and warn of possible dangers and risks. The document is available on the cidb.

- iii) Much of the above points to the need that the contract between the main contract and the client should provide the context for appointing nominated subcontractors or requirements to employ subcontractors from the community, but this contract is usually not shared with the subcontractors.



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