

## **Subcontractor Bidding Practices in Multiple Invitations to Tender vis-à-vis Service Trades**

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### **Abstract**

Bidding practices of seven New Zealand subcontractors involved with service trades were investigated with specific reference to multiple invitations to tender (under the same job). Most subcontractors submitted bids to all 'invitations'. Consequently, factors that affect decision to tender appeared to be of little value. Main contractors who pay on time, provide efficient site management, who establish and maintain good relationships, and have good reputation received favoured (or same) prices whilst others were discriminated by 0-10% depending on the level of risks associated with these attributes.

### **Keywords**

Bid cutting, bid shopping, relationship, reputation, subcontracting, tendering

### **1. Introduction**

Subcontracting is extensive in New Zealand to the extent that there are multiple tiers of subcontracting. By and large, standard form of contracts no longer require main contractors (MCs) to keep clients informed or take permission from them to subcontract work. Medium to large scale MCs capitalise on prevailing retention regimes by subcontracting work to ensure positive cash flows and hence create investment opportunities (Abeysekera, 2003). Subcontracting as a way of doing business and managing projects is there to stay! Given its obvious importance to the national economy and to the construction industry, there is opportunity for much research.

A matter of fundamental importance to a subcontractor (SC) is 'bidding' – a practice where each competing SC simultaneously submits bids to one or more MCs either by invitation or otherwise. In a study conducted in the state of Colorado, it was found that subcontractors often submit either separate bids to all or some contractors but rarely provide one quotation to one MC or refrain from submitting a bid (Shash, 1998a). Interestingly, it was reported that some SCs increased their price 5-10% on bids to MCs with whom they had not worked with. As to whether this was a strategy to deal with bid shopping or not was not clear.

Many controversial issues are associated with the bidding process viz. bid peddling, bid shopping, bid cutting etc. to name a few. May, Wilson, and Skitmore (2001) found such practices to be widespread in South-East Queensland and that MCs and SCs were polarised on the ethicality of such practices. They also found that incomplete project documentation at the bidding stage made it difficult to ensure a binding

contract to be formed noting that such a resolve (that would limit bid cutting) was not favoured by MCs and some SCs. However, SCs seem to adopt different strategies to deal with such practices. For example, according to Shash (1998b), SCs in Colorado submit quotations to all inviting contractors just a few hours before the main bid opening time and thereafter attempt to find prices submitted by other SCs. Although not all MCs accede to such requests, some did, especially those who were not successful. Often, such prices became the basis for post tender negotiations with a strong focus on bid cutting. Often, SCs negotiate on tender-tags and on various issues relating to scope, payment terms, insurance, quality, and schedule before accepting work given that bid documents were poorly prepared.

Similar findings have been reported by Uher and Runeson (1984) who also point out that although bid-shopping is legal, it is unethical and economically undesirable due to pressures on the weaker parties (i.e. SCs). However, in the State of California bid shopping is now illegal but during the post tender stage (and not during the pre tender stage) on State projects. The view taken by Californian legislators (as stated in Keating, 1990, p.121) seem to be that bid cutting prior to award ‘may foster the same evils, but at least they have the effect of passing reduced costs onto public in the form of lower prime bids’ (May, Wilson and Skitmore, 2001). With regard to Uher and Runeson’s other contention that SCs increase their bid prices to counter adverse effects of bid-cutting by as much as 20% (5-6%, 9-10% being the commonest) is an interesting issue that needs further investigation given also that an increase of 5-10% has been found by Shash (1998a) for different reasons as noted before.

## 2. Study Objectives

One important message these findings bring to light is that MCs should seriously assess strategies they adopt when inviting SCs to submit bids in order to obtain competitive prices. Given none of the studies mentioned above or any other have failed to address the issue of multiple invitations to tender, it was seen interesting and useful to (a) understand briefly the bidding practices adopted by New Zealand SCs (b) the extent to which the phenomena shown in Fig. 1 was prevalent (c) attributes main contractors should possess to attract competitive bids, and (d) the impact of these attributes on SCs bid-prices.

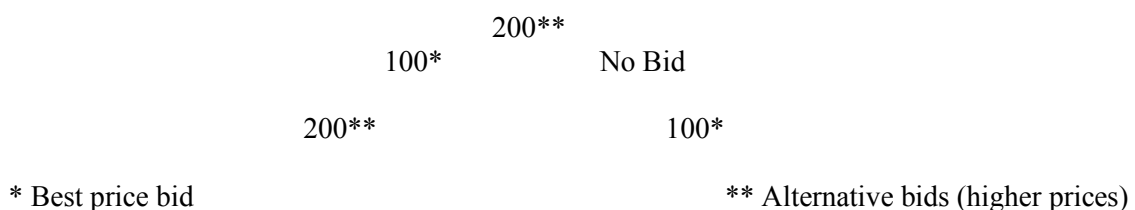


Fig. 1: Responses to multiple invitations to bid (same work package): A conceptual model

## 3. Methodology

In order to respond to the aforementioned aims, the authors considered it fit to adopt a qualitative approach for this exploratory study. Accordingly, it was decided to conduct semi-structured interviews so as to probe deeper on various issues. The study focussed on building trades which were categorised based

on (a) frequency of subcontracting, and (b) overall costs, with the intention of selecting trades that were frequently subcontracted and were of high value. Trades such as demolition, excavation, and concrete were handled by labour only subcontractors or by in-house staff of MCs. As such, these were excluded from this study. Further investigation revealed that some trades were more frequently subcontracted than others, and the cost of individual trades (as a percentage of the overall cost) varied depending on the type of building which made it difficult to select a suitable set of trades. Given this background, 'services' related trades were selected as the aggregated cost of these trades often accounts for the second highest cost 'element' of a building (i.e. next to superstructure), viz. electrical, mechanical, and plumbing. Additionally, it was thought useful to include the specialist trade of tanking/water proofing as well given its recent importance (vis-à-vis the leaky building syndrome widely reported in New Zealand media) and its heavy subcontracting. Accordingly, seven subcontractors (from Auckland) were selected for the study with two each from electrical (large and small firm), mechanical (medium & large firm) and plumbing (small and medium firm) and one from 'tanking' (medium scale firm). Those selected for interviews were involved with estimating and tendering and had a good understanding of the issues involved; of the seven interviewed, six were directors of these subcontracting firms. As mentioned before interviews were semi-structured (see Appendix for interview guide). Two rounds of interviews were conducted (in 2003) with the second round used mainly for obtaining their views on the importance of factors cited by respondents and to ascertain the perceived impact on bid price. The conceptual model depicted in Figure 1 was used when responses were sought with regard to multiple invitations to tender and for the case studies with respect to each subcontracting firm. Results were analysed using a conceptually clustered matrices and through a cross-case analyses.

## **4. Findings**

### **4.1 Factors influencing decision to bid**

All SCs received invitations to bid. Many factors were cited as affecting the choice to submit a bid or not. Although 18 factors were identified, those of primary importance (i.e. factors cited by more than half the respondents), in order of commonality, were (a) MC's creditworthiness (b) existing relationships (c) reputation (d) their management ability, and (e) competitiveness of the tender list. What these findings bring to light is the need to engage consciously with these issues (by having strategies in place) in order to evoke responsive bids from SCs and ensure competitiveness. It would be shown later that of all the factors cited by SCs, the two most important ones were 'reputation' and 'relationship'.

### **4.2 Reasons for not submitting bids**

Despite reference to such influencing factors, it is interesting to note that all SCs interviewed claimed to submit bids when invited but for one SC who stated that they would not submit bids to untrustworthy MCs – an attribute linked with 'reputation'. Thus, factors influencing whether to bid or not does seem to have little impact on the decision to bid at least on the face of this finding! Perhaps, SCs adopt other strategies to cope with such influencing factors: For example, all SCs claimed they give different prices to different MCs with the exception of one subcontractor. This establishes strongly one of the main hypotheses that underpin this research, i.e. the fact that SCs give different prices to different MCs, and weakly the other hypothesis, i.e. that they avoid submitting bids (see Fig. 1).

However, when asked to respond to the conceptual trilogy of relationships shown in Fig. 1 (i.e. no bids, low-bids, alternative bids) all but one SC (as noted before) provided explanations on why they would not submit bids! Interestingly, such responses contradict with the findings of the question "Do you tender to all MCs in a multiple invitation to tender?" to which all but one SC answered in the affirmative!! Perhaps, the only explanation to this apparent paradox is that (a) no-bid situations are rare, and (b) factors that

affect decisions to tender are generally of little ‘value’. This raises the question as to why MCs should develop strategies around factors that affect SC’s decision to tender as advocated earlier.

Firstly, the reasons as to why SCs do not submit bids must be explained which in turn would help to answer the question raised above. Foremost amongst the responses received was ‘MCs creditworthiness’. In other words, if the MC was known “not to pay on time”, it would be a strong disincentive to submit a bid. However, there was one SC who claimed that even in such situations they would still submit a bid but with a higher price to cater for higher risks. This appears to be an interesting response given the protection SCs have under the Construction Contracts Act (CCA). Two other often cited reasons were ‘reputation’, and ‘relationship’, meaning that if the contractor had a poor reputation and/or was unknown, there was a good possibility of not submitting a bid.

Given this finding, it may be argued that of the 18 factors that were cited by SCs as affecting the decision to bid (or not), the three most important factors were (a) creditworthiness (b) reputation, and (c) relationship. Thus, if MCs developed strategies around these three factors, they would be in a better position to receive competitive prices from SCs.

### **4.3 Reasons for different prices to different MCs**

Whilst the above mentioned factors are important to the extent that they act as incentives/disincentives to bid, it is equally or even more important to a MC to understand what other attributes they should possess in order to receive best-price-bids from SCs. This issue is better understood if reasons for submitting different prices to different MCs could be ascertained first. Accordingly, the SCs were asked why they do so: “There are companies in Auckland who we don’t bid for because they shop our prices. We are not going to get the job anyway. We might have a multiple tenders come out that we would be bidding for five MCs. We may decide to give bids to two MCs and dummy prices to others, something that is at least 10% greater than what we give our favourite contractors ... It’s no point giving information that is going to be used against us and it does happen unfortunately. When we give a good price, they ring up their preferred SC and release our information...” Thus, MCs reputed for bid shopping (poor reputation) appear to get increased prices and those with whom good relationships have been developed get better prices: “If we find that there are four MCs who have asked us to bid and one is unknown, we increase our price by 5-6% for the unknown MC, and if a MC has a bad reputation, we don’t bid.” These comments reinforce the importance of building good relationships; a factor that was mentioned by all the SCs. Two further factors cited by all respondents that results in quoting different prices to different MCs (on multiple invitations to tender) was their ‘ability to make timely payments’ and ‘management on-site’. In addition, factors such as those related to contra-charges, agreement on final account, and variations, had a bearing on different prices to different contractors (but not necessarily on multiple invitations to tender). All these factors could be grouped under ‘reputation’. Thus, MCs with good reputation who maintain good relationships with SCs get favoured prices; others were discriminated. However, whether similar (or different) prices were given to favoured MCs were not clear from these responses. (See next section.)

### **4.3 Factors influencing low-bids**

This section deals with the reasons for best-price bids depicted in the conceptual model (see Fig. 1). Responses to two issues were sought: (a) factors that influence SCs to quote low (irrespective of whether there were multiple invitations to tender or not), and (b) factors that influence them to do so in multiple invitations to tender as per the conceptual model (see Fig. 1). In response to the first issue, 14 factors were cited. Of these the following factors were noted by not less than three of the seven SCs; stated in the order of importance they are as follows (computed by assigning a system of weighting for individual responses): Payment, relationships, management, state of the bid documents, reputation, and schedule. However, when questioned on the reasons for best-prices (in multiple invitations to tender), respondents narrowed down their responses to the first four factors only, i.e. payment, relationship, management, and reputation (see Table 1 for responses received). Whilst it is clear why ‘schedule’ was not included, it is

however not as clear why ‘state of the bid documents’ was not mentioned; perhaps, bid-documents provided by different MCs are similar given that it is the for the same job (as per Fig. 1 model).

Table 1: Reasons for best-price bids in multiple invitations to tender (for the same project)

Electrical SC	Electrical SC	Plumbing SC	Plumbing SC	Mechanical SC	Mechanical SC	Tanking SC
Competitive price for MCs: (a) with whom a good relationship exist; and (b) with a good ability to make payments.	Competitive price to those with (a) a good ability to make payments (b) with whom good relationships exist (c) good reputation (d) sufficient management on site.	Competitive price for MCs: (a) with whom a good relationship exist; and (b) with a good ability to make payments.	Best price for favourite MCs, i.e. for MCs with whom it is a pleasure to work for.	We have favourite MCs that have looked after us. Obviously we want to work for them and we will squeeze our bid to give them the best.	Best price for the four MCs we work with as we know they are not going to hammer us with every single thing like access panels and builders-works, we will get a great price. Always give favourite MCs same price together with alternative bids.	Ability to pay well.

Thus, the main attributes MCs should possess in order to attract low-bids is to ensure payments are made on time (without any hassle), establish and maintain good relationships, provide efficient site management (as perceived by SCs), and have a good reputation.

#### 4.4 Impact on price

The four factors synthesised above were then used to assess the impact on the best price bids submitted by SCs (in the second round of interviews). The results are given in Table 2 which shows an overall impact varying from 0-10% (with the commonest impact range being 6-10%). These values are different to those found by Uher and Runeson (1984), and Shash (1998a), and the reasons are different too. Perhaps, an examination of actual prices submitted in multiple invitations to bid would have given a better indication of the range of price increases as applied by SCs and the reasons for them.

Table 2: Increase in price over lowest bid price (as quoted by SCs)

Factors	Payment delays	Relationships not close	Management on site not sufficient/efficient	Reputation sketchy	Total
Electrical A	3.0%	1.5%	2.0%	3.0%	9.5%
Electrical B	0.0%	0.0%	0.0%	0.0%	0.0%
Plumbing A	2.5%	2.0%	2.0%	3.5%	10.0%
Plumbing B	3.0%	2.0%	2.0%	2.0%	9.0%
Mechanical A	2.0%	2.0%	3.0%	1.0%	8.0%
Mechanical B	3.0%	1.0%	1.0%	1.0%	6.0%
Tanking A	3.0%	1.0%	2.0%	1.0%	7.0%
Av increase	2.4%	1.4%	1.7%	1.6%	7.1%

## 5. Conclusions and Recommendations

All SCs receive multiple invitations to tender. Many factors affect this decision but the commonest were (a) MC’s creditworthiness (b) existing relationships (c) reputation (d) their management ability, and (e) competitiveness of the tender list. However, these factors appear to be of little value as most SCs submit

bids to all invitations. Exceptions were in situations where the SCs had doubts about (a) MC's creditworthiness (b) reputation, and (c) where no prior working relationships existed.

MCs with good reputation and relationships with SCs received favoured (or equal) prices; others were discriminated with the result that different MCs received different prices in multiple invitations to tender arising particularly as a result of the response of MCs to factors such as payment terms, management on-site, approaches to contra-charges, variations, and final account and whether a MC is known for bid-shopping, all of which could be grouped under 'reputation'.

Thus, in order to attract low-bids, MCs should ensure timely payments (without any hassle), establish and maintain good relationships, provide efficient site management, and have a good reputation. If risks connected with these factors were high, the lowest price submitted by SCs would increase by up to 10%. Good relationships encourage SCs (especially mechanical SCs) to submit alternative bids which would bring down prices further. Although one could speculate that MCs would be well aware of these factors, nevertheless, what these conclusions bring to light is the need to consciously engage with these issues (by having strategies in place) in order to evoke responsive bids from SCs and ensure competitiveness in the long term.

Finally, based on the findings in this study, it may be hypothesised that MCs, who haggle over payments, fail to develop relationships, who do not have a good reputation, and who do not have efficient management on site attempt to beat down prices, indulge in bid shopping/bid cutting, etc. as a response to bid-price-differentiation of subcontractors.

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### APPENDIX: Interview Guide (First Round)

1. **Subcontractor Characteristics:** name, position, type of subcontract work, number of employees, work load, size of project undertaken, years of experience, annual turnover
- 2 **Bid Details and Submissions:** (a) How do you find out about tenders? Please list them in order. (b) Do you submit bids to all main contractors in a multiple invitation? (c) If not, why? (d) When do you submit your bid?
3. **Pre-bid negotiations:** Do you adopt any strategies to deal with bid-shopping?
4. **Expectations:** Is the price you quote the price you expect to work for?
5. **Do post-bid negotiations take place?** Always Regularly Occasionally Never
6. **Factors influencing subcontractors' decisions:** (a) What are the factors that influence you to submit a bid (in order of importance)? (b) What are the reasons for giving different prices to different MCs? (c) What are the reasons for the following scenarios (i.e. no-bid, best-price bids, alternative bids in multiple invitations to tender)?
7. **Factors influencing lowest price:** (a) Factors that allow you to give the best-price (in order of importance)? (b) Factors that allow you to give the best price in multiple invitations to tender (as per Fig. 1)?