

Affordability of quantity surveying services on construction projects in South Africa*

Peer reviewed

Abstract

It has become a norm in the construction industry in South Africa for quantity surveyors to offer reduced professional fees on construction projects due to the competitiveness of the market. This reduction in fees offered by professionals usually falls somewhere between the recommended fees as published by the Association of South African Quantity Surveyors and a fee that is far below a fair remuneration for the services offered.

Research was done by means of questionnaires to practicing quantity surveyors, as well as analysing time spent on projects in order to determine how affordable professional services can be rendered and what the most influencing factors for determining fees are. The current Tariff of Professional fees was also scrutinised to see how it evolved over the years, as it is still used as a basis to calculate the fees on which a discount is offered.

The main findings of the research were that quantity surveying services can be rendered affordable, but the quantity surveyor is more exposed to the risk of not being able to render the service affordable on certain projects types and the risk further increases with a decrease in project value.

Keywords: professional fees, quantity surveying, South Africa

* This paper was presented in part at the COBRA research conference, Brisbane, Australia, July 2005.

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Abstrak

Dit het die norm in die Suid Afrikaanse konstruksiebedryf geword dat bourekenaars, as gevolg van die kompeterende aard van die bedryf, verlaagde gelde aanbied op konstruksieprojekte waarby hulle betrokke is. Sodanige verlaagde gelde wat aangebied word val êrens tussen die aanbevole geldetarief wat deur die Vereniging van Suid Afrikaanse Bourekenaars gepubliseer word en gelde wat ver minder is as gelde wat beskou kan word as 'n regverdige ver goeding vir dienste wat gelewer word.

Navorsing is gedoen deur middel van vraelyste aan praktiserende bourekenaars sowel as deur die tyd wat op projekte spandeer is te analiseer. Dit is gedoen ten einde te bepaal hoe bekostigbaar professionele dienste gelewer kan word asook wat die faktore is wat wat sodanige bekostigbaarheid beïnvloed. Die huidige Professionele Geldetarief is ook nagegaan om te sien hoe dit deur die jare aangepas is aangesien dit steeds gebruik word as basis waarvolgens gelde bereken word waarop afslag gegee word.

Die belangrikste bevindinge van die navorsing was dat bourekenaarsdienste wel bekostigbaar gelewer kan word, maar dat die bourekenaar meer bloot gestel word aan risiko op sekere projekte om nie 'n bekostigbare diens te lewer nie en dat die risiko verder vergroot met 'n afname in die waarde van die projek.

Sleutelwoorde: professionele gelde, bourekenkunde, Suid Afrika

1. Introduction

The Association of South African Quantity Surveyors (ASAQS) publishes recommended tariff of professional fees at regular intervals that are used as a basis to derive a fee proposal for a construction project for private clients. When work is done for government departments, the fee scale is used unconditionally most of the time, provided that the latest tariff of fees that was approved by the National Department of Public Works and published in a government gazette is used (it normally take some time between publication by the ASAQS and approval by government).

Although the tariff of fees is being used as a basis for fee negotiation, the competitiveness of the market have forced quantity surveyors to submit discounted fee proposals that usually falls somewhere between the recommended fees as published and a fee that is far below a fair remuneration for the services offered. This is not particular to the quantity surveying profession, or to South Africa. Smith (2004) did a survey on trends in the Australian quantity surveying profession and one of the major threats that emerged from this survey was fee cutting. Pirie (2004), the Executive Director of the South African Association of Consulting Engineers (SAACE), mentions that consulting engineers in South Africa find themselves operating in an increasingly competitive environment where the debate centres on whether or not consulting engineers know when to say no to a client or whether they have become so desperate for work that they would accept it even at a loss. SAACE (2003) also states in their guidelines for appointments that they believe that it is neither in the interest of the client or the project that consultant engineers should be selected on the basis of the lowest fee rather than the quality of service. Hoxley (1998) quotes Morgan who said that few surveyors in Britain will admit to fee cutting, but in reality they are all doing it, some even to the extent that they venture into loss-making territory.

It is almost universally accepted that fee reduction invariable compromises quality. Smith (2004) is of the opinion that the design professions were particularly affected by the recession of the Australian economy in the early nineties. This resulted in firms who became so desperate for work that they reduced their fees to unsustainable levels that in turn had an adverse effect on the quality of documentation. Pirie (2004) adds to this by saying that

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many uncompromising South African clients are pursuing cost-based selection of engineers rather than quality-based selection. As a result, the consulting firm is pressured to reduce fees. Forcing fees down unreasonably compromises quality. Hoxley (1998) mentions that in Britain most players in the market acknowledge that the quality of work will suffer when fee levels get below a certain point.

The above practice of discounted fees has given rise to the following questions:

- On what basis is the tariff of professional fees calculated?
- Are there differences between various types of construction projects?
- How do quantity surveyors determine their proposed fees on construction projects?
- How can an affordable fee be calculated on construction projects?

2. The evolution of the fee scale

It is necessary to have a look at the composition of the tariff of fees in order to assess what the implications will be when offering a discount based on that. According to Law (1985) the quantity surveyor practitioners at the beginning of the century adopted the 2,5% fee from their British counterparts. A further 2,5% was asked on all additions, while 1% was charged for omissions.

The quantity surveying profession slowly grew in stature and experienced numerous fee scale changes. In 1908 the newly formed South African Institute of Quantity Surveyors issued a further version with one significant change, namely the adoption of a sliding scale. The fee for 'normal' building work would commence at 3,5% and adjusted to a minimum of 2,5% as the value increased.

The sliding scale provisions brought about another debate, namely the depreciation of money. The sliding scale introduced a primary charge with an additional fee as a percentage of the value above certain levels. The debate arose due to the fact that the primary charge remained fixed for a long period of time. The risk on the professional becomes more evident when building cost escalation is significantly lower than the consumer price index. Another phenomenon occurred when building cost escalation increases

dramatically after the tariff of fees have been fixed for a certain period of time, as was evident in 1973 when building cost escalation had risen by 50% (Law, 1985).

The Consumer Price Index (CPI) and escalation in construction cost (BCI) as recorded by the South African Bureau for Economic Research (BER) have been compared since 1992. In real terms the CPI and BCI statistic comparison is indicative of the escalation of the quantity surveyors' input cost (CPI) versus the escalation in income from the professional fees (BCI).

Table 1: CPI and BCI comparisons

<i>Year</i>	<i>BCI behind () Ahead (+) of CPI</i>
1992	0%
1993	7,2%
1994	9,5%
1995	5,6%
1996	2,0%
1997	1,8%
1998	3,2%
1999	7,6%
2000	5,2%
2001	8,0%
2002	8,2%

The fees committee of the ASAQS drafted a motivation document for amendment to the Tariff of Professional Fees (ASAQS, 2002) and had the following comment on the BCI/CPI comparison:

"Quantity surveyors have effectively under-recovered their inflation costs over the past ten years. While in some periods this has been accepted, the accumulative effect over time and the significant lag over the last few years have necessitated an increase." On account of the above, an agreement was reached between the Chief Director, Quantity Surveying services of the Department of Public Works and the ASAQS that the adjustment to the primary charge of the Tariff of Professional Fees would depend on the difference between the CPI and the BCI (ASAQS, 2002a).

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As part of the Tariff of Professional Fees the services rendered by quantity surveyors are defined in four different stages, being service A (estimating and cost advice stage), service B (tender documentation stage), service C (contract administration stage) and service D (final account stage). During the past 20 years there were six revisions of the Tariff of Fees. During this period there was a drastic change in the proportional distribution between the various stages. The following is an indication of the changes that took place in the apportionment of fees for provisional bills of quantities:

- Service A (estimating and cost advice) was 5% in 1981 to 1993. This changed in 1996 to 10% at which it still remains at in the latest fee scale (2002).
- Service B (tender documentation) decreased from 30% in 1981 to 20% in 2001.
- Service C (contract administration stage) had the most severe adjustment as it was at 25% in 1981, increased in 1993 to 40% and was further adjusted upwards to 47,5% in 2001.
- Service D (final account stage) was 40% in 1981, decreased to 30% (1993) and in 2001 decreased further to 22,5%.

The implication of the above changes is that the estimating stage, which has been adjusted from 5% to 10%, became a stage with more risk allocated to it for the quantity surveyor. The reason for this is that the risk profile of the employer and the consultant has an inverse relation. On the one hand the employer has an urgent need for an accurate decision making tool (i.e. financial feasibility study and/or detailed cost estimate), but on the other hand the quantity surveyor cannot afford to spend too much time on such activities due to the risk of the project not continuing and consequently, in most instances, not being reimbursed for the executed work.

The most heavily weighted stage is currently the contract administration stage. This stage has the longest duration and entails intensive involvement from the quantity surveyor. If one look at the service definition of service C of the 1993 and 2001 Tariff of Professional Fees, the 1993 version states that service C "means financial management and preparing valuations for the issue of payment certificates and shall include preparing documents for the procurement of subcontracts expressed as provisional sums in the bills of quantities". The 2001 version gives a much more detailed breakdown of duties in service C, among others the following:

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- Preparing schedules of predicted cash flows;
- Preparing on a pro-active basis estimates of cost for proposed variations for client decision-making;
- Maintaining a running financial management statement on a monthly basis and monitoring against the financial budget; and
- Adjudicating and resolving the financial and contractual aspects of claims between the client and the contractor, excluding services related to mediation, arbitration and litigation.

Although it is doubtful that the quantity surveyor would not have performed these tasks in any event, the current Tariff of Professional Fees refers to a more comprehensive service and therefore binds the professional to that standard which otherwise could have been argued to the contrary.

Apart from the differences between the CPI and BCI as stated before, other factors that contributed to the adjudication adjustment of the Tariff of Professional Fees that have a direct influence on the professional fee are the following:

- The quantity surveyor's service has broadened over the years without compensatory adjustment to the basic fee. This is substantiated by the expanded definitions for services A to D.
- The quantity surveyor's overhead costs in respect of electronic hard- and software have increased substantially since 1992. The advent of computers has resulted in ongoing increased costs in hardware and software support and upgrading – costs not adjusted for by the CPI.
- When looking at other professions, the architects' fees increased with 16,9% (average over the different value categories) and civil/structural engineers have increased their fees since 1992 by 13,7% (average over the different value categories). This has resulted in the quantity surveyor losing out disproportionately in collective bargaining situations (ASAQS, 2002a).

3. Research on professional fees charged on construction projects in South Africa

Snyman (2004) did a study on which the descriptive survey method was used. The targeted population was registered quantity surveying practices in the Gauteng province, of which a list was obtained from the ASAQs. Twenty practices were identified of different sizes, ranging between small (1 to 3 quantity surveyors), medium (4 to 8 quantity surveyors) and large (more than 8 quantity surveyors). The identified practices were approached telephonically after which a questionnaire was sent by means of e-mail. The respondents completed the questionnaire electronically and returned it to the sender. The response was 85%, which could be expected from the survey method adopted.

It should be noted that research was only done on projects where the Tariff of Professional Fees were used as a basis for fee calculation. Projects that were done on an hourly fee basis were not taken into account, although it is acknowledged that this is a practice that is being used more frequently in recent times.

3.1 Results of questionnaire and discussion

The research questionnaire was compiled by identifying key factors determining profitability of professional fees on construction projects in South Africa.

3.2 Discounted professional fees

The questionnaire posed a question as to what the average discount is that quantity surveying firms offer their clients expressed as a percentage from the Tariff of Professional Fees published by the ASAQs.

Table 2: Average discount offered

<i>Average discount</i>	<i>Respondents</i>
0 5%	0%
6 15%	29%
16 20%	57%
21 25%	7%
+25%	7%

The results indicate that the majority of quantity surveying firms (86%) offered a discount of between 6% and 20% on the recommended fees of the ASAQs. This seems to indicate that the Tariff of Professional fees is fairly generous as practices can afford to offer such a discount and are still making a profit.

3.3 Reconciliation between hours spent and fees charged

The question was whether quantity surveying firms do reconciliation between the hours spent on a project and the fees that were charged.

Table 3: Reconciliation of hours

<i>Reconciliation</i>	<i>Respondents</i>
Always	11%
Most of the time	28%
Often	6%
Seldom	33%
Never	22%

It is interesting to note that 55% of all respondents indicated that they seldom or never do reconciliation between time spent on a project and the actual fees received. The question inevitably arises how a practice can justify offering a discount on the recommended fees of 6% to 20% when such reconciliation is not performed. A prominent quantity surveyor justified this by explaining that there is too much "dead" time on a project (i.e. time spent on the telephone) that is not recorded and therefore such reconciliation is regarded as not accurate.

3.4 Factors influencing fee proposals

The respondents were requested to indicate which of the given factors are the most influential when drafting a fee proposal for a client by means of rating factors from 1 (most influential) to 5 (least influential). The respondents were given the opportunity to add factors that were not mentioned.

Table 4: Factors influencing fee proposals

<i>Proposed factors</i>	<i>Most influential</i>	<i>Least influential</i>
Prospects of follow up work	44%	6%
Credibility of client	31%	6%
Affordability of the fee	20%	7%
Type of contract	20%	47%
Competitiveness of the market	7%	27%

As can be seen from Table 4, the most influential factor when drafting a fee proposal is the prospect of follow-up work, while the second most influential factor is the credibility of the client. It is interesting to note that even though 55% of the respondents indicated that reconciliation between time spent and fees received are seldom or never performed (Table 3), the affordability of the fee was the most influential factor for 20% of the respondents.

One factor not incorporated in the list of influential factors but highlighted by four respondents, is the composition of the professional team. Other factors indicated as having an influence when drafting a fee proposal:

- Availability of suitable personnel;
- Location of the project;
- Programme of the project;
- Current workload;
- Level of service required;
- Complexity of the work; and
- Client involvement.

3.5 The use and purpose of time sheets

The respondents were requested to indicate whether employees keep time sheets and, if so, to what detail.

Table 5: Time sheets kept by respondents

<i>Timesheet detail</i>	<i>Respondents</i>
Time sheets not kept	33,3%
Timesheets kept hourly with reference to project	33,3%
Timesheets kept hourly with reference to project and task per formed	22,2%
Timesheets kept weekly with reference to project	5,6%
Timesheets kept only on projects that are charged per hour	5,6%

The results indicate that almost 68% of all respondents do keep timesheets. The results are contrary to what have been expected since 55% of respondents indicated that no reconciliation is done between time spent and fees received. In retrospect it could have been useful to request respondents to indicate what the information obtained by timesheets are used for.

3.6 Project type distribution

Respondents were requested to indicate the workload distribution by a percentage allocation of five given categories. The categories being:

- Shopping centres;
- Office developments;
- Motor dealerships;
- Residential;
- Industrial; and
- Special projects (i.e. airports, casinos, harbours, recreational facilities, educational facilities, filling stations, hospitals, hotels, etc).

Table 6: Project type distribution

<i>Project type</i>	<i>Distribution</i>
Shopping centres	31%
Office developments	24%
Special projects	21%
Motor dealerships	11%
Industrial	7%
Residential	6%

It is important to note that the above results are indicative of time spent on certain projects and not related to the percentage of total fees earned.

3.7 Project profitability

The respondents were requested to rate given project types from most to least profitability based on their personal opinion. The following project types were listed:

- Shopping centres;
- Office developments;
- Motor dealerships;
- Residential; and
- Industrial.

The respondents were requested to rate the profitability from 1 (most profitable) to 5 (least profitable).

Table 7: Project type profitability

<i>Project type</i>	<i>Most profitable</i>	<i>Least profitable</i>
Industrial	67%	0%
Shopping centres	22%	0%
Office developments	11%	0%
Motor dealerships	0%	0%
Residential	0%	100%

The above results indicate that 67% of the respondents are of the opinion that industrial projects are most profitable, but Table 6 reflects that only 7% of the respondents' time is spent on such projects. It could be argued that it is due to the lack of availability of these types of projects.

4. Calculation of an affordable fee

In his research, Snyman (2004) tried to establish what an affordable fee can be on a construction project. In order to do so he analysed the time spent by quantity surveyors on various projects by selecting a number of projects done by a large quantity surveying firm and adding the hours indicated on time sheets. In order to determine the profitability of these projects, the cost of providing the service needs to be established. There are actually two types of cost involved, i.e. the production cost (the cost of providing the service) and the turnover cost (the total cost including company profit). Three large consultancy firms were approached to establish what factors they use to determine the production cost of the services rendered. The three firms indicated that they use a factor between 1.6 and 1.8 to be multiplied by the salary costs of the personnel to determine the production cost. The salary cost of the personnel multiplied by a factor between 2.2 and 2.35 amounts to the turnover costs of the respective firms.

By using the above information together with results from a salary survey conducted by the ASAQS (ASAQS, 2004), Snyman (2004) analysed 12 projects in the different categories (shopping centres, office developments, motor dealerships, industrial and residential) as stated before, using the ASAQS fee tariff for provisional bills of quantities as a basis together with the production and turnover costs as described above. Table 8 shows the results when comparing two motor dealerships on this basis.

Table 8: Profitability of two dealership related projects

<i>Tariff of Professional Fees (ASAQS)</i>					
<i>Discount offered</i>	<i>0%</i>	<i>10%</i>	<i>15%</i>	<i>20%</i>	<i>25%</i>
Dealership 1	2 013 689	1 812 320	1 711 635	1 610 951	1 510 266
Total production cost	679 231	679 231	679 231	679 231	679 231
Total turnover cost	879 004	879 004	879 004	879 004	879 004
Profit/ (loss)	1 134 684	933 316	832 631	731 947	631 262
% Profit on turnover	129.1%	106.2%	94.7%	83.3%	71.8%
Dealership 2	359 165	323 248	305 290	287 332	269 373
Total production cost	115 513	115 513	115 513	115 513	115 513
Total turnover cost	149 488	149 488	149 488	149 488	149 488
Profit/ (loss)	209 677	173 761	155 802	137 844	119 886
% Profit on turnover	140.3%	116.2%	104.2%	92.2%	80.2%

The results from this part of Snyman's study are as follow:

- The analysis on 12 projects indicates profitable margins from a loss of 79% to a profit of 364% at a discount level of 30% from the Tariff of Professional Fees. Various factors could have contributed to this big difference such as inaccurate completed time sheets, the salary survey that the production and turnover costs was based on could have been not reflective of the position of the actual firm used in the study, etc. Whatever the case may be, it can be stated that the quantity surveyor rendering the service find himself in a position where the possibility exist of making large profits, but simultaneously run the risk of making a loss.
- It was found that there was a definitive correlation between the profitability and the value of the project. The higher the project value, the higher the profitability of the project. Although the reason for this is not clear from the research, one aspect that can be noted is that the time spent on a project during the contract administration stage (service C) is not directly related to the value (the quantity surveyor compiling a valuation for a payment certificate does not necessarily spend double the time on a R100m project than he would on a R50m project).

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- Quantity surveyors' professional fees are directly influenced by the construction cost of the projects they are involved in and therefore the cost of the finishes can cause large variations in a market that would seem homogeneous. Because of this residential projects especially pose a high risk to the quantity surveyor of not achieving the required profit margin because of the variety of possible finishes and designs and was therefore indicated by 100% of the respondents in Snyman's study (2004) as being, in their opinion, the least profitable.
- In contrast to residential projects, the danger of over capitalising on a shopping centre and then not achieving the required rental levels to justify the capital investment inevitably places a restriction on the levels of finishes to be specified. It is however also true that there are a variety of shopping centre designs ranging from small convenience centres to mega shopping malls. It is suggested that shopping centres pose a lower risk to the quantity surveyor than residential developments.
- The main purpose of office developments is to establish a facility within the corporate market as a working environment. The basic functions of an office development remain basically the same irrespective of the design and finishes. Snyman's project analysis did not establish definite criteria to evaluate the different project types, but it did suggest that office development pose a lower risk to the quantity surveyor of making a loss than that of a shopping centre (or residential projects for that matter).
- The analysis of a specific project regarding material used and design in order to determine whether quantity surveying service could be rendered affordable is not the only criteria, because the quantity surveying practice does not always have projects evenly spread over a period of time. The time distribution of the projects the quantity surveyor is involved in could be more important than the individual project's profitability itself.

5. Conclusions

Although the results from the study show that quantity surveying services can be rendered affordable when professional fees are discounted from the Tariff of Professional Fees as published by the ASAQs, the following should be taken into account when an appropriate percentage discount is being decided upon:

- The cost of risk work that has not been compensated should be taken into account when analysing projects for potential profitability.
- The quantity surveyor is not in a position to offer a discount of professional fees purely based on the profit potential but should rather evaluate the risk of the project type.
- Different project types pose different levels of risk of profitable professional services. In order for the quantity surveyor to determine the resources required in the preparation of tender documents, individual projects need to be evaluated and the fee calculation is to be based on the material used and the design of the project. Consultants should compile their own costing systems in order to recognise deals where the risk outweighs the reward.
- The quantity surveyor's risk of making a loss on an individual project seems low, but the risk of experiencing cash flow difficulty is not necessarily dependant on the profits made on a single project.
- The challenge remains to educate clients to understand the price vs. risk relationship and the consultant's ability to add value.
- Adhering to fee guidelines and being more selective about accepting discounted fees. This will be the first step in moving from a scenario where professionals are selling their time to one where they are selling value.

In conclusion it can be stated that although there is no apparent scientific way on which an affordable discount can be calculated, the quantity surveyor can minimize his risk by taking the factors discussed above into account, rather than taking a 'thumb suck' or giving an ad-hoc big discount just to secure the appointment.

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