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AN INVESTIGATION ON THE LEVEL OF COMPETITION IN PROCUREMENT OF ARCHITECTURAL CONSULTANCY SERVICES AND ITS RELATIONSHIP TO PROJECT PERFORMANCE AND INNOVATION IN GAUTENG

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A Research Project Report Submitted to the Faculty of Engineering

And Built Environment, University of Witwatersrand, in Partial Fulfillment of

the Requirements for the Degree of Master of Science (Building)

In the field of Project Management in Construction

Johannesburg, 2009

DECLARATION

I declare that this work is my own except where it is explicitly stated otherwise and has never been submitted to any university or institution before, for award of any qualification.

……

Didas Rugambwa
Johannesburg, South Africa
2009

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ACRONYMS

[A]- ACR: Appointment of Consultants from a Roster;

[B]- AfDB: African Development Bank;

[C]- ASP/C: Architectural Service Providers/Consultants;

[E]- CPE: Consultants Performance Evaluation;

[F]- CPGs: Commonwealth Procurement Guidelines;

[G]- DPW: Department of Public Works;

[H]- DVCs: Developing Countries;

[I]- EoI: Expression of Interest;

[J]- GP: Gauteng Province;

[K]- GPA: Government Procurement Agreement;

[L]- MDBs: Multilateral Development Banks;

[M]- NTB: National Tender Board;

[N]- RFP: Request for Proposals;

[O]- RIBA: Royal Institute of British Architects;

[P]- SA: South Africa;

[Q]- TCO: Total Capital Outlay;

[R]- ToR: Terms of Reference;

[S]- UNCITRAL: United Nations Commission on International Trade Law;

[T]- WB: World Bank;

[U]- WTO: Word Trade Organisation;

CHAPTER ONE
INTRODUCTION

CHAPTER ONE
INTRODUCTION

1.0 Introduction and background

Procurement is a process involving the acquisition of goods, works and services commonly referred to as project resources. It comprises, among other things, development of a procurement strategy, preparation of contracts, selection and acquisition of suppliers, contractors and service providers as well as management of those contracts. This study however, only focuses on the selection and acquisition of Architectural consultancy services in the construction industry.

1.1.1- Competition in procurement of construction services-

In the construction service industry, competition may play a fundamental role in the development of the industry. It is a principally intrinsic parameter of any procurement procedures portrayed in different stages, right from inception through feasibility to outline proposal and scheme design.

Lipimile (2004), in his research highlighted that "*competition plays a role in providing strong incentives for achieving enterprise development through enhancing market access for new investors, protecting the economy from restrictive business practices as well as fostering economic efficiency and consumer welfare*".

Brusick et al (2004) described competition as a "*process that springs from interactions in the marketplace as rivalry between firms over consumers' or customers' money drives them to deliver* ***higher quality*** *and* ***lower prices****"*. He went further to say that "*this process of rivalry then impels each firm to look inward to ensure that it is using all its resources as efficiently as possible thus reduces inefficient use of resources, cutting down waste, and, thereby, reducing costs*".

In the context of this research, **"**Competition**"** is limited to mean an occasion on which a winner (*Architectural consultant*) is selected among two or more contestants through a formal-evaluation of sources that uses pre-established rules that help provide a level platform.

In the industrial and private sector, the cost of professional services generically termed as "*professional fees*" in South Africa's (SA) construction industry may range from 12.5% to 16% or even 18% of the total project cost, depending on the type of project. It is also important to note however, that in South Africa's construction industry the broad based black economic empowerment (*BBBEE*) component is becoming more apparent in the procurement process of consultants. This is part of new initiatives of strategic procurement systems designed to allow some degree of competition and address certain socio-economic imbalances in South Africa. By allowing adequate "*Competition"* in the procurement of Architectural consultancy services for projects at pre-construction implementation stage in the development cycle, may be crucial as:

- It is likely to stimulate innovation thus encouraging competitors to come up with new ideas;
- It may facilitate room for new entrants in the service industry;
- Clients are likely to get many options to choose from in selecting the right consultant;
- The cost of services as obtained from competition is likely to be comparatively lower [Lipimile (2004)];

An example of the above four points being manifested in competition in the standard service procurement procedures is through request for proposal approach. Here consultants would know that they are in competition to take up a job, hence streamlining the quality of the product they intend to offer to the client.

This research was basically aimed at establishing exactly how the industry is currently procuring construction consultancy (*professional*) services in South Africa with a view to highlighting what can be improved to enhance competition within the procurement system

under consideration. A study was conducted between architectural service providers / consultants in the South African private sector based in Johannesburg metropolitan area.

The study therefore also aimed at ascertaining the existence, in South Africa's private sector, of construction consultancy (*professional*) services procurement practices. It is hoped that the findings of this study will form a basis for optimal adjustment and adaptation towards improvement of the service procurement system in South Africa's private sector construction professional service industry.

The study also aimed at assessing the link between consultant service procurement and performance with respect to final project cost/budget.

1.2 Problem statement

Selecting the best consultants for a project has always been a challenge to many clients especially in developing countries South Africa (SA) not being exceptional. There are many ways of selecting consultants that range from sole-source option of procuring services to competition approach. Hattan and Lalani, (1997), suggested that the more competitiveness the consultants' selection process is, the more the consultants will be responsive in structuring their delivery approach and methodology.

Lipimile (2004), highlighted that "*lack of adoption of an appropriate competition policy, and the continued protection of vested interests in developing countries has tended to have the* ***negative effect*** *of hindering enterprise development*". He went further to state that "*this has resulted in lack of* ***innovation***, ***increase in costs*** *of production, slow adjustments and destruction of jobs*".

In SA private sector construction consultancy services, client-consultant relationship selection approach is more apparent and the extent/level to which competition manifests itself through standard consultant selection procedures at pre-construction contract stage is uncertain. This poses **a problem** in the construction industry's service sector as it may

impact negatively on both innovation and overall project capital outlay hence likely to stifle performance.

Lewis (2005), stated that "*competition based selection is **a proxy to performance,***" in the sense that one gets an opportunity for consultants to provide samples and portray undoubtedly what is expected from them in their proposals, again how this is manifested in SA's private sector was yet to be revealed by this study.

The composition of the private sector referred to in the context above being limited to mean: private architectural firms while clients being private investors/developers. This approach of procuring services appears to be bedded in traditional systems of procurement based on client relationship, networking among others. There is therefore, need to review the impact of adequate or inadequate competition in this sector with the aim of establishing what can be improved so as to obtain the best out of competition.

1.3 Research question

The **Research question** is ***"****How can the current architectural consultancy services' procurement system be improved to enhance innovation, facilitate new entrants and hence improve performance in SA's private sector, Gauteng in particular?****"***

1.3.1. -The Research sub-questions

1.3.1.1- Is consultancy services' procurement method linked to performance?

1.3.1.2- Which procurement procedure is more appropriate to the construction service sector in Gauteng?

1.3.1.3- How has competition in design consultant's selection process affected the final project capital cost in the construction industry?

1.4 Aims and objectives of the Study

1.4.1- To assess consultants' procurement process architectural service providers/consultants ASP/C in particular; the level of competition in their selection process.

1.4.2- To assess effectiveness of the consultants' procurement process in getting the right consultant; ASP/C in particular.

1.4.3- To assess the link between consultant service procurement and performance with respect to final project cost/budget.

1.4.4- To suggest the appropriate or possible alternative procurement procedures needed for a favourable final project cost.

This research will contribute in suggesting the appropriate procurement method that will help address the above intrinsic parameters of "*completeness and timeliness*" as well as the "*absence of design alterations or scope changes*".

1.5 Significance for the study

The main motivation for this research project was the need to establish whether there is a link between performance and consultant's service procurement method used at the inception stage in SA's private sector construction industry.

Many projects' budgets are drawn based on the initial scheme design sketches drafted by architects; therefore how to obtain a consultant to conceive and capture the brief is very crucial. Securing the right consultant helps bring the project costs within the budget hence the need to assess and suggest the appropriate and cost effective consultant services procurement procedures, particularly architectural service providers/consultants (ASP/C).

Whereas a lot of research tends to concentrate on the construction phase, little has been done on pre-construction phase. From a quantity surveyor's perspective, a study by Elhag et al (2005), identified certain cost-determinant variables that affect pre-tender construction estimates and total capital outlay. In their study, which entailed assessing the level of influence of every cost-determinant variable, they indicated that for better performance or delivery, the relationship between procurement methods, type of client as well as the project type & size were very crucial.

Statistically, the study by Elhag et al (2005) highlighted the need to address the "*Consultant and design parameters,*" as it was ranked among the top in the category of cost influencing factors, with a severity index of 82%. Furthermore, the study revealed that the "*Consultant and design parameters*" had two intrinsic component factors of

"*completeness and timeliness*" as well as the "*absence of design alterations or scope changes,*" contributing 92% and 94% to the index respectively.

The issue raised here is: *Does the "consultant and design parameter" an important factor in determining project's cost?* The answer is yes statistically shown by Elhag et al (2005). However, the above study fell short of linking this cost influencing parameter to the procurement process used to acquire the architectural design services.

It is noted, from previous research such as Lewis (2005), that "*competition based selection is* ***a proxy to performance,***" in the sense that one gets an opportunity for consultants to provide samples and portray undoubtedly what is expected from them in their proposals. He analysed and recommended that clients should at least solicit three consultants in the first place and look for capacity, competence and not simply be impressed by people or past experience. How this concept has manifested or been sidelined in SA's construction industry, is yet to be assessed hence the justification for this research. As Masterman (1992), highlighted; "*the principal reasons for the poor performance is the mind-set of population's perception that the known and established systems will always satisfy their needs*".

The study will contribute greatly by examining the perception of the stake holders with regards to the effectiveness of the current consultant's service procurement process and establishing if indeed there is a link between performance (*cost parameter*) and the former. The research will suggest if there is need to improve or opt for other alternative service procurement methods.

1.6 Scope of the research and limitations

1.6.1. Scope: Competition in a procurement system is a linked chain, starting from the first stage (*inception*) through to the tender action stage to yield final results, with the policy varying from country to country, in developing countries. Therefore, much as we would have liked to also link other professional services provide such as project

management services, quantity surveying services, etc., the scope of the proposed research was strictly confined to the procurement of architectural consultancy (*professional*) services at inception stage in South Africa's private sector (*private sector being kept in its context as defined in 1.2*), specifically examining architectural services providers/consultants.

It very important to note that BBBEE aspect which some clients now apply in their selection process was expressly excluded from this research. This was due to its broadness as it would be too big a mouthful to swallow given the short time period allowed for this academic research. The research was also restricted to Gauteng due to its strategic geographical location in relation to limited resources available for the study, its being economic hub of the entire nation as well as time constraint.

Even though Gauteng is an economic hub of the entire nation, which implies that most firms have their registered "*domicilium citandi et executandi*" in Gauteng and hence reasonably fair choice, a continuation of the study up to the national level was therefore recommended as the results may or may not necessarily reflect shared practices nationally.

1.6.2. Limitations: The study was limited to architectural service providers/consultants (ASP/C) only. The other side of the coin involving other stake holders/players such as clients, that could constitute another academic research, was not to be investigated as there was insufficient time available for the study. Nonetheless this was also recommended for further study in chapter five herein.

1.7 Definitions of terms used

*"**Services,"*** in this context is limited to mean all professional services related to the construction industry, ranging from Architectural Professional services, Quantity Surveying services, Project Management, among others. "***Procurement***" is limited to the recruitment

of these services through a standard selection process by the use of “Request for Proposal (RFP).

“*Competition,”* *is limited to mean an occasion in which a winner is selected among two or more contestants, through a formal-evaluation of sources that uses pre-established rules that help provide a level platform*.

CHAPTER TWO
THE LITERATURE REVIEW

CHAPTER TWO
LITERATURE REVIEW

2.1 Construction service sector in general

On average, based on professional tariffs in from different professional bodies, the total cost of professional services in SA's construction industry may range from 12.5% to 18% of the total project cost, depending on the type of project. It is therefore imperative not to marginalise the impact of allowing competition in service procurement on the final project total capital cost at an early stage as well as the tacit aspect of improving quality through innovation as noted previously by Brusick et al (2004). Competition in service procurement procedures in the construction industry is reflected in inception/feasibility stages, much as it is in Tender Action Stage (*stage no 8*) of the development cycle.

Providing sufficient or a level platform for competition has always been a difficult thing to balance as there is no such a thing like perfect competition in real life, whether in open or restrictive competitive bidding. However by allowing a least common denominator in consultant's selection process may result into obtaining quality product at a comparative price. A good example, one would imagine where a client has two or more design proposal on the table to chose from together with two or more different prices.

Whether it's in industrial/commercial sector or public sector, adequate "transparency and competition" in procurement of professional services for construction projects may have a considerable impact on innovation, facilitation of new entrants and final project cost. The aspect of completeness and timeliness that goes with competition once ignored may lead to the procuring entity spending more money than previously budgeted, on construction projects as it drags the system to "*design-to-cost*" rather than "*cost-to-design*" approach due to lots of unforeseen, thus stifling performance.

Again competition may not sound pleasant specialty to those forces that are already established in the industry indeed as it may seem as leading a revolution against your own dynasty. One may ask: is competition an unquestionable good? Or is it better to have X

respondents instead of Y? The basic critique that is obvious here is that; how does one know that he or she has got a good product without selecting from a variety!! As mentioned in paragraph one above, the idea of this study is to highlight the benefits of having a variety to choose from. There is no perfect competition but the underlying principal is to have a least common criterion in the selection process to act as a denominator.

In the recent past, prompted by the above scenario among others, the international community represented by the United Nations, together with the World Trade Organisation have had a concerted initiative in trying to set minimum standards in an attempt to address the problem by adopting the UNCITRAL Model Law on procurement of services among others. This set of pre-established rules provides a least common denominator to begin with. Nonetheless, competition policy varies from country to country and some developing countries (DVCs) are busy reforming their procurement policies to match the set standards. Whether it is happening in the private sector in Gauteng province is the big question that would entail another research. However, like any other legal document, UNCITRAL has got some pitfalls as discussed in 2.5 herein, that need to be addressed.

2.2 Competition in service procurement

According to the World Bank procedures (2004), within Service Procurement process at the Inception stage, competition is reflected in the following sub stages of standard requests for proposals guidelines;

2.2.1- A formal Request for proposals or even an Expression of Interest where applicable.

2.2.2- Submission of proposals

2.2.3- Opening of technical and/or graphic proposals only.

2.2.4- Evaluation of technical/graphic proposals against pre-established criteria

2.2.5- Opening of financial proposals for technically qualifying bidders only.

2.2.6- Contract negotiation and notification.

This can be further elaborated in a simplified diagram below;

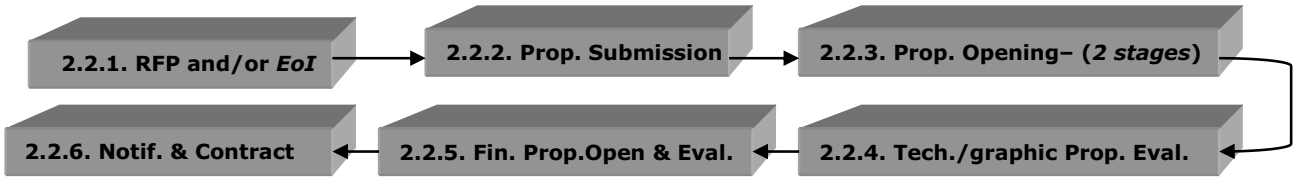


Figure 2.2: Sub-Stages of services procurement at inception stage (adopted from WB procedures, 2004)

Any attempt to improve any of the above will enhance competition in the entire process. In Cancún WTO Ministerial Conference (2003), certain issues that are pertinent to this research were highlighted nobly:

- Existing legislation and procedures. These could be drafted and initiated by the professional bodies themselves which act as regulatory organs or even the state to the extreme end.
- The tendering and qualification criteria itself. This is normally reflected in the guidelines manual. (*A good example of how this translates into SA context is the SAIA architectural competition guidelines manual*)
- Information on Procurement opportunities. This is portrayed in the RFP itself.
- Domestic review of procedures.
- The tendency to stick to the traditional ways and reluctance to embrace change to allow competition.

In any business industry, there are several underlying principles to competition and competitiveness, a good example is Porter's model of five competitive forces. Porter (1980) technically analyses industries' competitive strategy to be comprised of five forces namely:

a) *Bargaining power of suppliers;*
b) *Bargaining power of customers;*
c) *Threat of new entrants;*
d) *Threat of substitutes;*
e) *Competitive rivalry between existing players;*

Porter's model support the analysis of these driving forces in an industry and urges that the objective should be to modify these thrusts or influence them to exploit particular characteristic for the benefit of the industry. This study however, is particularly linked to two of the five forces above notably the:

- ☞ Threat of new entrants
- ☞ Threat of substitutes.

Under the threat of new entrants, parties may have the reluctance in admitting new competitors in the service industry. As highlighted by Porter (1980), "the threat of new entrants will depend on extent to which there are barriers to entry". Similarly, the threat of substitutes may occur, especially if the products come at lower prices of better performance parameters for the same purpose.

The critique here is that much as the model portrays major influencing factors to competition in an industry, it felt short of unpacking the extent of one of the major barriers to entry of new entrants and substitute products which is procurement. Hence the extent and/or effects of the procurement aspect as a potential barrier to new entrants and substitute products SA private sector construction service industry need to be unpacked.

2.3 Service procurement and developing countries

One way that is likely to enhance transparency and encourage competition in DVCs is by adhering to some international standards with regards to consultancy services, procurement procedures or national reforms by relevant professional councils. According to Hoekman & Mavroids (1997), some reasons are suggested as to why DVCs have not acceded to this and these include, among others:

- ❖ To avoid costs of information and contract compliance associated with International Tendering Procedures and transparency itself. Well this needs to be interpreted differently from country to country, in SA this may not be necessary as having rules & guidelines regulated by relevant body would suffice.
- ❖ Large firms may be able to use their market power to drive out small firms.

- Existing/established firms may see competition as a threat hence may also believe that there are little chances of winning contracts.

To some extent these issues in reality may have become hindrances in fostering competition in developing countries and the SA construction service sector being may not be exceptional. This is relevant in SA context as it is no different from other DVCs.

Improving competition or adopting some approach on transparency in service procurement may be crucial as it is likely to have a considerable effect of increasing innovation as noted previously from different studies such as Lipimile, (2004) and hence becoming beneficial to the procuring entity. However, for it to be fostered in SA's construction service industry a policy will needs to exist within relevant professional bodies and hence ways of improving it needs to be explored by not narrowly addressing such a parameter. One may argue that why should there be need for policy by relevant professional bodies? This is simply because in SA, like any other DVC, operations of professional service providers are regulated by relevant professional bodies through pre-set rules and guidelines for example SAIA went a step ahead to develop completion guidelines. This pre-empts one to say that it may be a good idea to take it further beyond design competitions to standard architectural service procurement guidelines for major and minor projects.

Encouraging selection from competition or adopting some discipline/principle on competition procedures in procurement in the construction industry is crucial as it has the impact of reducing procurement costs and hence becoming beneficial to private sector in DVCs with little resources (Evenett, (2003)).

2.4. Consultants appointment from a roster and a targeted procurement: South African derived models

"Appointment of Consultants from a Roster (*ACR*)" for tasks not exceeding R 2 million (*DPW* - "*ACR-Preamble Notes and the Purpose of the Roster, Sub Section 3*) and the use of "Targeted Procurement" (Watermeyer, (2000) are all new initiatives of strategic

procurement systems designed to allow some degree of competition and address certain socio-economic imbalances in SA, without jeopardising transparency.

The use of **"Targeted Procurement"** as an Instrument of poverty alleviation and job creation in infrastructure projects was developed in SA as part of new initiatives of strategic procurement systems designed to address certain socio-economic imbalances without jeopardising competition. Within this strategic procurement system a 6 model-approach is described for use in procurement as a tool of social policy.

The critique however, this approach is more apparent in the public sector and not an often approach in the SA's private sector service procurement. It's another form of preferential treatment as the aspect of **"*who ought to benefit*"** is brought into the procurement process to those imbalances in SA's context [Eng. Ron Watermeyer (2000)].

In general it looks to be a fair approach given that based on his work (R. Watermeyer (2000)), it is understandable that there are certain means that can be employed within the existing service procurement systems to achieve certain goals or objectives, without compromising the best standard practices of competition and transparency. Nevertheless, as mentioned earlier, this is hardly prevalent in SA's private sector construction service industry as the only foremost critique.

Though it may have its limitations as being applicable only in SA, the principle or even the concept itself may be allowed to evolve further thus facilitating new entrants at the same time without compromising competition. Even though BBBEE is not part of the scope of this research, it is worthwhile to note that it has also become apparent in SA as a legally accepted form of preferential/targeted procurement applicable in all sectors of the construction industry including services. It is also another way of addressing past imbalances without compromising transparency and competition. There are definitely many influences attributing to BBBEE including the past history of the economy of SA that can only be unpacked in a different research.

The reality is that the traditional systems of procuring consultancy services without competition that have dominated in SA's private sector may not have fully benefited many, especially small emerging firms. Competition framework should be allowed to drive the consultancy service sector in order to enhance innovation.

The **"Appointment of Consultants from a Roster"** too is also currently employed in SA to try to incorporate and accommodate different transformations that have been taking place including the procurement reform policy accepted by the department of public works (DPW).

The background to this is linked to a study that was conducted in 1994, which revealed that the previous roster system had the pitfall of a lack of fair & equitable awarding of tasks to construction service consultants. It may have been worth amending some traditional ways to suit the adjustments that had taken place in SA after 1994, and try to put a way forward in addressing the uniqueness of the situation. This too however has limitations as it is mandated for use only for tasks not exceeding R 2 million. It is also worthwhile to note that most of tasks beyond the above threshold are frequently negotiated.

Of course one may argue that this kind of system may promote preferential treatments. Exempting such assignments from competition based on balance between price and competence by simply appointing from the roster, may hinder transparency goals aimed at achieving adequate competition.

Instead the private sector and DPW should come up with simple procedures of competition still within the framework of **"***Affirmative Procurement Policy,*" regardless of the threshold involved. This would inculcate the spirit of open competition and transparency, especially in services where the need to facilitate new entrants and encourage innovative ideas to come to the service sector is paramount.

In a brief summary, the former i.e. "Targeted Procurement", brings in the aspect of "w*ho ought to benefit*" into the procurement process which one may embrace as not a bad idea. In the latter i.e. "Appointment of Consultants from a Roster", one may argue that

exempting such assignments from competition based on balance between price and competence may promote preferential treatment, thus hindering the beneficial goals that would otherwise be derived through adequate competition.

2.5 Competition as regulated by the UNCITRAL Model Law.

This is an International Model Law on procurement of goods, construction and services that establishes a certain degree of competition acceptable in procurement activities hence it is an international legal instrument on procurement. The background to this goes back in 1994 when it was adopted by the United Nations Commission on International Trade Law. It spells out the internationally acceptable methods of procurement of construction works, goods and services among others that could be well-suited within the context of SA private sector. The only critique however, is that this document is very general in its article 30 sub-sections 5(a) and (b) (UNCITRAL 1994); it does not exhaust everything especially with the recruitment of architectural services, in terms of taking cognisance of its speciality. This article sets some options of which are likely to bring some loopholes, for instance, states may choose not to incorporate all these methods of procurement into their national legislations and in so doing affecting competition in one way or another in this sector.

Our main concern here is more oriented towards services, with particular focus on the hiring of architectural consulting services in the built environment. It is obvious in SA private sector for example, other than the SAIA that has developed completion rules and guidelines, relevant professional bodies have yet to setup detailed procedures appropriate for them and have left the business relationship aspect to take its course. In that light the special nature of recruitment of architectural services through bidding or request for proposals approach and its impact on project's TCO may yet need to be revisited.

This model law however sets a benchmark for all the guidelines in procurement, as the stigma of competition lies within the existing legal framework and its compliance thereof. It sets a directional precedence with regards to realising a certain acceptable degree of competition expected in the procurement of construction services. The argument is that it

may be a good idea if SA private sector emulated kind of analogous but not necessary similar procedures/approach, which would open doors to allow whoever feels, is competent enough to participate. In SA this could easily be enhanced by relevant professional bodies.

In that light therefore, recruitment procedures for architectural services and other built environment services through either an architectural contest or other means need to be readdressed, based on how they are currently being handled.

2.6 Competition in services procurement as regulated by other procedures: Rules of procedure - AfDB Group and selection of consultants - World Bank procedures.

Use of consultants: rules of procedure - AfDB Group (The African Development Bank Group, (2000) and selection procedure and employment of consultants by WB Borrowers (The World Bank, 2004): all these are sets of rules drafted to promote fair competition in the construction industry. As mentioned earlier, the critique is that they are all not exhaustive when it comes to hiring architectural consultancy services through RFP process which is very crucial in any construction industry, especially in DVCs.

Use of Consultants: Rules of Procedure - AfDB Group. These are a set of rules drafted by the Bank to promote competition in hiring consultancy services through RFP process, for the benefit of the parties to loan agreements or grants from AfDB and the effective use of the funds.

These procedures share in common certain elements with the UNCITRAL Model law. They contain rules, policies, general principals and guidelines that must be complied with so as to realise adequate competition during the procurement of consultancy services by borrowers and grant receivers from AfDB. However, like other procurement procedures discussed earlier, certain elements are not fully addressed.

The clauses 3.6.2 (selection procedures) and 3.6.9 (presentation of proposals) of these rules allow only two (2) envelope-two (2) separately conducted evaluation. Clause 3.8., examination and evaluations, does not handle the special nature of architectural contests especially with regards to graphic proposals, rather it deals with ordinary consultancy services.

Selection Procedure and Employment of Consultants by WB Borrowers (May 2004). This too is a document that sets general principles and rules to be adhered to by borrowers and grant recipients. Similar to those mentioned above, the only critique is that they also leave certain gaps, such as the accommodation of the architectural contests to gauge the innovation of ideas.

Sub-sections 3.3 to 3.6, of these procedures all emphasise on a separate two-envelope system which definitely does not comfortably suit architectural contests to technically evaluate the evolution of ideas in graphic proposals.

All these procurement procedures are tools that tend to enforce “Competition” by bringing about certain discipline in service procurement, thus creating a least common platform for all bidders and giving room to new entrants. Within the scope of rules and guidelines in one way or another initiated by relevant professional bodies, as presumed, not only would there be checks and balances, there would also be stringent measures to ensure compliance. At the same time non-compliance repercussions would be clearly outlined emulating these International tools (Sub Section 2.10, page 9”-AfDB Rules).

It is worth noting however, that certain sectors in the built environment such as the property sector have already taken a step ahead in this regard so as to provide a least common platform. The property sector transformation charter (2007) has at least taken a stand on procurement by opting for preferential procurement approach within the framework of affirmative procurement policy, in its clause 7.0 and clearly setting measurable yardsticks thereof. Otherwise, realisation of adequate competition in procurement of consultancy services at pre-construction contract stage in SA’s private sector construction industry may still be a nightmare to achieve.

The point raised here is that all procedures/guidelines regarding procurement are relevant to SA as they provide necessary background information to different ways of improving competition in procurement of consultancy services in SA's construction industry, which forms the main point of this research.

By maintaining the definition of competition stated earlier in chapter one as *"an occasion on which a winner is selected among two or more contestants through a formal-evaluation of sources that uses pre-established rules that help provide a level platform",* the WB and AfDB outline the following consultant selection criteria in their procurement guidelines.
These include:

- Quality Based Selection (QBS): In this selection criterion, quality is paramount on a project regardless of the cost. It relates to specific complex nature of a project where technical competence cannot be compromised at any cost hence the winner (consultant) is selected based on the highest technical attributes/points.
- Quality-Cost Based Selection (QCBS): In this selection criterion, the technical attributes/points scored are combined with the financial offer/cost and the winner (consultant) is selected based on the highest combination of both technical and financial scores/attributes using pre-set criteria/formulae e.g. 70:30 or even 80:20 respectively depending on the project. It's the most commonly used approach/option as compared to the rest.
- Least-Cost Based Selection (LCBS): It is important to note here that this does not necessarily mean the cheapest but rather the least qualifying bidder. The lowest offer is selected among those that have already been technically qualified as capable of carrying out the task/assignment.
- Full Budget Selection (FBS): As the name suggests, the consultant selection is based on the budget.

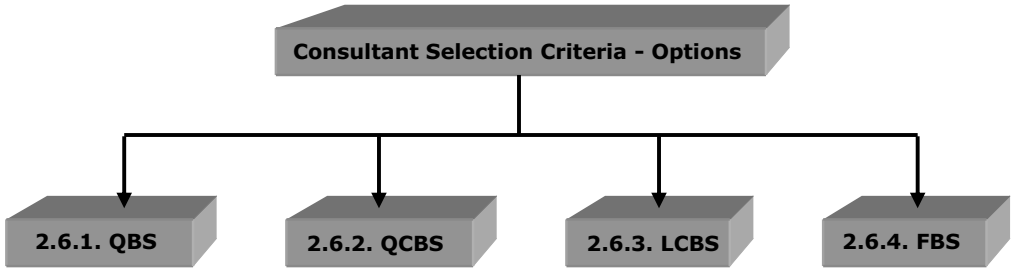


Figure 2.6: Pre-established set of rules/Selection criteria for consultants (Source: WB procedures, 2004)

Similar but not necessarily the same pre-established rules or guidelines may be emulated in SA's private sector construction industry in efforts to improve the system by selecting one that suitably suites the environment in its specificity.

2.7 Pre-construction costs and total capital outlay – Quantity Surveyor's perspective.

Pre-construction costs are among the variables that affect TCO. According to a study conducted among the Quantity Surveying firms in the UK, Elhag et al (2005) identified certain cost-determinant variables that affect pre-tender construction estimates or total capital outlay. In their survey, which entailed assessing the level of influence of every cost-determinant variable as identified on a three point scale as well as the ranking of each category, they indicated that for better performance or delivery, the relationship between procurement methods, type of client as well as the project type & size were very crucial.

Given the fact that this study is dealing with the procurement aspect of consultants in SA private sector, the literature from Elhag et al (2005) is relevant as it feeds into the development of this study by highlighting the importance of the procurement method which is the core stigma of the subject matter.

Their study involved, among others, the severity index computation as a statistical approach used in ranking and Kendall's concordance test as measure of the relationship between rankings of cost factors in every category so identified.

Elhag, Boussabaine and Ballal, (2005) established that among six different grouped categories of cost influencing factors, the top ranking categories were:

- “Consultant and design parameters" which had a severity index of 82% with the intrinsic component factors of “*completeness and timeliness*” as well as the “*absence of design alterations or scope changes*” contributing 92% and 94% to the index respectively.
- “Client parameter” that had a severity index of 77% with a pertinent intrinsic factor of “*experience in procuring construction*” contributing 68% to the index.

It is important to note that this team of researchers set a directional precedence with regard to realising different factors affecting T.C.O by highlighting in their research that there are indeed certain qualitative factors such as **procurement method** that due to their qualitative nature may not be easily structured and quantified.

This study by Elhag et al (2005) though conducted in the UK comfortably translates in the context of SA’s private sector construction industry as a whole. It shows that as a matter of fact, T.C.O is more affected by architects and other consultants than the contractor, hence the selection procedures for these consultants need not be marginalised. The conduction of this study in SA private sector focused on establishing the link between the procurement method and TCO.

This is more consistent with the fact that T.C.O is more influenced by decisions at briefing, feasibility or inception design stages than later on during implementation. However, this study falls short of exposing or investigating the underlying critical determinant of “*competition*” with regard to selection, procurement, recruitment or obtaining good consultants at pre-tender or inception stage, despite this category of “*consultant and design parameter*” being ranked the top most influencing factor of T.C.O. It was cut short in this direction may be due to ingenuous scope of the research itself and hence the study in SA unpacks the gap.

Nonetheless, there are advances from here. This particular research endeavours to bridge this gap by portraying the degree of influence, in particular of selecting consultants through competition as a variable on its own to T.C.O.

The point here is that through competition, best consultants can be selected at the best responsive price and best consultants means better project completeness and timeliness thus positively impacting on T.C.O.

2.8 Selecting the best consultants for a project through competition and total capital outlay.

Selecting the right consulting team may be a challenging one. Hattan and Lalani, (1997), in their journal article titled "*Selection of the right consulting team*" provide a basic approach in selecting the right consultant and the best way to achieve this is through competition. They describe the right consultant as the one who is prepared to work as an extension of the agency's staff with full comprehension of the project as well as with new ideas or innovations (Hattan and Lalani, 1997).

This literature from Hattan and Lalani, (1997), is very relevant to the study in SA private sector as it highlights the importance of a selection approach that may lead to obtaining the right team as the best team would bring the much needed innovation.

The right consulting team therefore is the one that is able to deliver a successful project hence positively impacting on performance. A successful project being the one delivered on time, within the budget and to client's satisfaction. To realise this, consultant selection process based on pre-established criteria as characterised in competition based selection may be vital and thus the need for this research in SA particularly in Gauteng.

The competition based selection however, may vary from project to project. Hattan and Lalani, (1997), suggested that given the selection process itself may bear certain costs, small projects below a certain threshold (*e.g. $25,000*) may still be solicited on a sole-source basis while large and medium-sized projects be dealt with through a qualification based selection, that is competition. The relevancy and challenge therefore is to establish how this is manifested in SA private sector as this would provide a pre-determined project

scope and schedule all outlined in well spelt out terms of reference (ToR) for the recruitment of the consulting team.

In SA's private sector, we have seen major projects opting for sole-source in procuring the consultant team; using the traditional approach based on "*who knows who*" by judging from past history without testing the capabilities of others. This is likely to hinder new entrants, thus limiting ideas, and it may derail performance as the projects are often started without clear scope, therefore resulting in tremendous scope change during the implantation phase, hence affecting the T.C.O.

The critical argument here is that with pre-proposal preparation in the selection of consultants through competition, there is always a propensity to establish priorities during the ToR preparation. This will bring in design completeness aspect with regards to the scope in planning and design phase all in a complete front programme, hence minimising scope changes that would otherwise have affected the budgeted T.C.O.

Another advantage of allowing competition in the selection of a consulting team is that some consultants may have other good ideas, solutions and even suggestions incorporated within their submitted technical proposals but whether this is happening in SA private sector may be a big question.

These good ideas, solutions and/or suggestions could be accommodated into the project, upon prior authorisation from the originator who in most cases won't refuse despite having lost the bid because as part of the business, firms will always want to be in good books and eyeing for future opportunities to come.

According to Hattan and Lalani, (1997), if contracting rules dictate that a competition process is required, the more the competitiveness, the more the consultants will be responsive in structuring their approach and methodology in their proposals, which will form a basis for selection and later contracting. This study in SA therefore would reveal

which selection approach is more predominant SA private sector and whether the above is happening.

Even though the paper recommends a three-stage sequential process involving a short statement of qualification (SOQ) and interviews, if translated into SA's private sector construction industry context, some of these stages may not be necessary, for instance interviews.

The argument and underlying principle is that the selection process should be objective as much as possible. In this case therefore, what is required here is only a comprehensive RFP as well as ToR that entail either QCBS or QBS as need may be, taking cognisance of the nature and complexity of the project. Taking into account the nature of SA's private sector construction industry, QCBS approach would preferably work better.

In a nut shell, competition-based selection of consultants may be the best way to select the right consulting team and should be encouraged in developing countries, including SA. This would allow new ideas to evolve further and once the consultants become aware that they are in competition, they are likely to offer competitive prices thus bringing the entire component of T.C.O down. Selecting right consulting team means project completeness, less scope changes and positively impacting on T.C.O and therefore realising the best value for the investment.

2.9 The cost component of consultant services in today's engineering and built environment.

The cost of building consultant services contributes significantly to the total capital outlay and forms part of the improvement costs in SA's construction industry. Sturts and Griffis (2005) in their recent research revealed that the selection of consultants in the building industry may or may not however depend on cost and price but rather on other factors such as quality, availability, reputation, technical references of the firm, among others, subject to the type of a project.

They also noted that reputation and popularity of the firm may increase the price while regulations and standardisation (*e.g. professional fees in SA' perspective*) may cause prices to fall, increase or even stay constant in relation to economic treads. All in all it is very important for the procuring entity (*client*) to understand what s/he is paying for and it's impact on the total capital outlay.

It is through competition therefore that the procuring entity (*client*) may be able to achieve the value of what s/he is prepared to pay for, given that s/he would have different option to choose from. In addition, once the consultants become aware that they are competing with one another, they will qualify themselves through their proposals by offering the best ideas and innovations at the best price thus bringing TCO down. The value aspect in this context refers to achieving quality at a comparative price.

In SA's private sector construction industry, the cost of consultant services may be based on tariffs set by relevant professional bodies. This however, acts as a guideline especially when dealing with government projects, as the firms may opt to use them or give a discount.

It is apparent that in most parts of the world the construction consultancy sector has shifted from cost-based to value-based pricing due to technological advancement (Sturts & Griffis 2005) and SA is not exceptional. Consultants attach a cost known as professional fees which forms a proportion of the total capital outlay of the investment. It is therefore important to note that preliminary decisions on scope of works at pre-tender stage may have a great impact on the capital cost of the investment as a whole.

It is obvious therefore, from the literature that in order to have the best consultant price even through competition, clear terms of reference must be drafted by the client/procuring entity during the selection process, entailing in detail the scope of what is expected from the consultants. Moreover, clear evaluation criteria should be incorporated to enable the consultants market themselves better. This may be quality based selection (QBS) or other procedure as shown in figure 2.6.

The critique here is that though the research conducted by Sturts and Griffis (2005) did reveal a bit of the fundamental concepts of the evolution of consultant current-pricing strategy from cost-based to value-based pricing in relation to maximising the chances of winning, it fell short of establishing the impact of the mode of selection of consultants to the total capital outlay. To unpack the two concepts, in cost-based pricing, consultants attach the actual cost of man-hours required to do an assignment while in value-based pricing, the fees are based on the size of the project's total cost bearing in mind that the bigger the project, the more the risk regardless of actual man-hours. A good example in SA is seen in the apportionment of fees from different professional tariffs. Even though the two concepts may prevail in SA private sector, this study had the objective of establishing the link between the method of selecting consultant to the cost component of performance.

Herein conclusion, one is prompted to say that the cost of consultancy services may depend on the scope of the assignment and method of selection as the "*competition*" aspect is likely to push down the value-price thus positively affecting TCO.

2.10 Procurement of building consultancy services and performance.

The performance of consultants in the construction industry is likely to depend largely on consultants' competence and knowledge base in a particular field. Performance in relation to consultants' services procurement may not be solely singled out but rather seem to be viewed in a more broader sense as to be embedded in the type of procurement system in general adopted by the client and hence the selection process.

The SA private sector construction industry may be dominantly characterised by separate and cooperative type of procurement system whereby the design and construction tasks are kept separate. The project performance therefore, may be more dependent on the competence of the design team, and hence how the client/procuring entity selects a competent design team is where the challenge lies as an incompetent team will definitely stifle performance and project delivery.

Rwelamila and Edries (2007) in their recent research stated that “an ineffectively chosen procurement system can cause poor project performance with regard to quality, cost and time schedule”. When it comes to performance therefore, selection of appropriate procurement system plays a bigger role than the selection of the consultants as the later forms a subset of the former. This comfortably relates to this study in SA conducted in Gauteng as it sought to establish the link between service procurement method used and performance.

Masterman (1992), as cited in Rwelamila and Endries (2007), highlighted that “the principle reasons for the poor performance is the mind-set of population’s perception that the known and established systems will always satisfy their needs”. In SA’s perspective, this may have sidelined competition in consultant selection procedures in the private sector construction industry and one of the objectives of the study was to ascertain which procurement systems was predominant in selecting/ recruiting architectural consultants in SA private sector particularly in Gauteng.

Based on the research carried out by Rwelamila and Edries (2007), it is obvious that consultants’ full comprehension and understanding of the client’s needs, is fundamental to the delivery of the project within the budget or pre-estimated total capital outlay. The question is how do you arrive at this? One would argue that one way to archive this is through selecting from a variety i.e. competition. The same research established that both clients and consultants acknowledge the usefulness of selecting appropriate procurement system based on competence, thus the selection criteria and approach is vital in any procurement process.

In a nut shell, performance is based on ability or competence of the consulting team to advise the client so as to achieve project delivery within the project parameters of cost, quality, time and clients satisfaction. From the literature reviews of project management, different definitions have been derived for a procurement system, however, the view point of this study aligns with that of Latham (1994 cited in Rwelamila and Edries 2007) that “the

choice of the a procurement system should precede the preparation of the project brief" and that is where the consultants should come in to facilitate in the design brief development.

The critique therefore is that, much as this paper deals with project procurement competence and knowledge base of civil engineering consultants, it fell short of linking the performance itself with the consultants' selection procedures, and in general with the competition aspect which is at the forefront in addressing competence realization.

2.11 Successful project performance and the consulting team.

A successful project performance is no doubt linked with having a perfect consulting team. However, according to Varughese (2005), working with consulting team requires certain technical approach for the project to succeed as categorised under the following headings:

- Project preparation
- Project budget determination
- Hiring the right consulting team

The third bullet above of "*Hiring the right consulting team*" relates directly to this study in Gauteng and it is therefore addressed in detail hereafter as the main focus of this review on project preparation.

Project preparation entails what Jark (n.d.), (Jack n.d. cited in Varughese 2005) referred to as "*institutional soul searching*" which is an internal needs and requirement assessment. In the construction industry, it may be aligned to the "brief". The consultant must get the brief right in the first place to avoid the project hitting a dead rock as it is during the brief that the problem is articulated. The client and the consultant must then set measurable goals. In a case of a typical construction industry, it is commonly known as "*front-end programme*" for consultants to deliver their tasks.

In the project budget determination aspect, the procuring entity needs to comprehend fully the scope before even thinking of the budget. Keeling, (n.d.) as cited by Varughese (2005), stated that "*the most dispute or misunderstandings in most cases is not about price but*

about the scope of work which in the end affects price". The scope-based budget must then be approved together with the front-end programme, as an effective guidance for consultants to perform their mandates.

In selecting the right consultant team, which is the main point, the best way may be through competition. In this case the RFP and ToR must be clear and comprehensive with detailed pre-established selection criteria. For the best anticipated performance in the construction sector, it may be better for the procuring entity /client to have a development manager who is a technical person to act as an eye on his behalf and help in the development of the brief and scope assessment.

The critique of this literature therefore is that, though their research gave an insight into the key approach on how to work successfully with consultants, it fell short of directly portraying how the consultant selection procedure itself may be linked to a successful project performance and if at all competition could play a role in the road to hiring the right team.

2.12 Consultants performance assessment and selection procedures.

Performance means ability to deliver the project parameters of quality, cost, time and client needs. Assessing the performance of consulting firms may not be as easy going, as it is subject to the capacity the assessor/ person doing the evaluation as well as the particular stage of the development cycle.

According to Thomas and Chow (2004), there are two ways of examining consultants' performance evaluation (CPE):

a)- Performance of different levels of development cycle i.e. Feasibility, design, tendering, implementation and post-construction phases.

b)- Overall performance of consultants with regards to resource capacity, inter-relationship, programming, etc.

Performance at feasibility level which is the part that relates to this study, refers to the capacity of consultants:

- To provide innovative ideas and help in the evolution of clients' brief.
- To comprehend and appreciate fully the available information
- To produce accurate cost estimate.
- To produce comprehensive and complete design.
- To advise on alternative design solutions that may be cost effective.

The only critical challenge is to establish the link between the performance at feasibility stage and the selection procedures used in obtaining the consultants.

How to archive this high level of performance? All comes back to the baseline of how you select/choose your designated consultants for the project. Do you solicit them through single-source? Or do you select them through competition?

Thomas and Chow (2004) stated that "the qualification-based selection system encourages consultants to develop a culture of continual improvement so as to achieve a win-win situation". The authors went further to state that "maximising the use of consultants' performance for decision support requires a transparent and equitable framework". This study in SA concurs with the authors on this view as the understanding here is that it requires pre-established rules and guidelines which are the true underlying principals of competition.

CPE based on single-source may not yield the best results as regards performance of consultants. Ullman (2001), (cited in Thomas and Chow 2004) stated that "a good consultant should be able to propose innovative and alternative design to improve quality, time, cost and risk". It may be true therefore that performance at this stage would have a huge impact on the budget thus affecting TCO.

The general performance of consultants also on the other hand is directly linked to capacity in terms of resources e.g. human & material resources. Lack of these resource elements will definitely stifle the performance of the entire project. Other factors that are likely to stifle performance on the side of consultants are: capacity to communicate

effectively & proper programming. All these are qualities that could be easily assessed if there was a variety to choose from in the first instance.

Pre-selection procedure: One best way to obtain a performing consultant team may be through competition, as general performance scores are always put in the pre-established list of assessment criteria. In qualifying a consultant through this, a performing consultant may be selected. In many pre-selection procedures adopted in different countries and organisations such as WB and AfDB, consultants' general performance score card ranges between 20 – 25% of the total technical pre-selection score points/attributes. The same applies to the key personnel that will be affiliated to the project in question. This approach will give the client/ procuring entity an opportunity to obtain the best services out of competition.

Thomas and Chow (2004), in their recent research found out that performance at design stage was very critical than any other stages and hence emphasised that care needs to be taken at this stage. It is therefore crucial to obtain the right consultants as lack of performance at this stage would stifle performance of an entire project.

The argument here, once again comes back to the approach you use to select your consultant team thus the selection procedure can in one way or the other impact on performance. The authors generally tackled performance evaluation of engineering consultants but fell short of directly linking their performance to mode of selection procedure used.

2.13 Consultants performance assessment in relation to Quantity Surveyors.

Based on the literature reviews, many countries around the world have established procedures that stress importance of qualification-based selection as the best way to enhance and realize quality performance of professional service providers. This entails pre-qualifying their technical and financial proposals/capabilities. In SA's private sector construction industry however, this may not often or necessarily the way to go.

Yiu et al (2005) found that past performance is one of the major factors that is given bigger percentage weight in terms of score points in the selection of consultants. They also stated that “there was not a clear scientific approach in evaluating consultant performance”. Other than depending on the information provided by consultants in their proposals, Yiu et al (2005) in their recent article regarding performance evaluation for cost estimators, highlighted the fact that “it is a scientific challenge to come up with a consistent and systematic method of CPE due to the intangible nature of the services and this itself may require independent expert to assess the performance aspect”. Though the study involved cost estimators, the approach could as well translate to architectural service providers.

Competence of any consultant in a team will definitely impact on performance. Chan et al (cited in Yiu et al 2005) found that consultants’ competence was a major factor towards project success. The question however remains as how do you obtain/ select a competent consultant? These researchers nonetheless admitted that measuring consultants’ performance was a tricky exercise as compared to contractors’ performance due to the reason mentioned in the above paragraph.

Taking an example of a consultant Quantity Surveying, according to Yiu et al (2005) the design/planning stage and construction phases were equally important with regards to quantity surveyors/cost estimators’ performance. It is a normal practice in SA and highly advisable to bring in a quantity surveyor at an early stage for his input. Yiu et al also found that the tender (contractor) stage was not so crucial from the clients’ point of view.

Also based on the study carried out in Hong Kong, Yiu et al (2005) interestingly noted that as part of quantity surveyors performance, quality assurance, substantiation of variation orders, advice on alternatives or contractual advice and assessments were the top most ranking in terms of performance. This suggested that clients heavily rely on proactive and professional advice from consultants. In this case therefore the authors suggested that clients in Hon Kong depend largely on the advisory role of the cost estimators. Their research feeds into this study as it attempts to unpack consultants’ performance which may be linked to how you obtain them in the first place.

In SA's context, it may not be as 100% a similar situation like that in Hong Kong, given the fact that the quality assurance aspect may not be a practical responsibility of a quantity surveyor. However, the underlying principal holds true in SA's construction industry. Clients depend on financial feasibilities, budgets and budget controls put together by quantity surveyors both in soliciting funding and in execution, in which in retrospect depend also in the design proposals put together by the Architect.

The question therefore, still remains on how to secure accurate budgets. The answer would be through a competent quantity surveyor. How do you secure a competent quantity surveyor? The answer would come back to square one, that is, on the approach/method used to select your consultants. Do you allow competition or do you solicit them on single source approach. Again budgets depend on design proposals drafted by Architects. If the design completeness aspect is not close to realisation, the chances are that a project is likely to go out of budget.

Much as the research by Yiu et al (2005) dealt more on the performance aspect and weight allocation on performance, it fell short of establishing the link between the selection process itself and the TCO.

2.14 Appointing consultants / consulting firms.

Selecting consultants may sound a little bit straight forward. In SA most clients may often approach consultants directly based on how long they have known them. This approach may be preferred simply because there are no serious costs involved by approaching previously known consultants as some of them are even ready to do certain preliminary works on risk before the project takes off.

The biggest disadvantage of this approach is that when things go wrong, they easily pass unnoticed and the client foots the bill. Lewis (2005) analysed and recommended that clients should at least solicit three consultants in the first place and look for capacity, competence and not simply be impressed by people or past experience. This relates

directly to the study as it discusses the impact of competition in consultant's selection process and the consequences of not having to a variety to choose from.

The author also highlights the importance of outlining and precisely describing first the scope of the needs before approaching a consultant. It is definitely more difficult for someone else to respond appropriately when the owner doesn't know precisely what they want. Lewis (2005) stated that "it pays to keep your eyes open when picking a consultant". In other words if consultants are chosen blindly consequences are leapt, in terms of cost.

Like many other researchers seen in the literature review, Lewis (2005) as a result of his research also emphasised the use of RFPs as the best way to go. Although this might have a cost implication and sometimes requires time, it brings better returns with regards to ideas, innovation and a chance to obtain from a variety of options. He went further to state that "*competition through RFP is a proxy to performance*" in the sense that you get an opportunity for consultants to provide samples and portray undoubtedly what is expected from them. Lewis (2005) gives the following tips among others that one needs to look for when choosing a consultant such as who exactly the client have been and/or will be working with, their appropriate credentials and qualifications as well as sufficient proof of technical references among others.

The onus now would be on the client/procuring entity to look for added value in the submitted proposals. Although the paper highlights the importance of selecting through competition, it fails to link directly the method of selection to the TCO. It also fails to recognise the requirement in most procurement procedures for varying number of competitive bidding depending on project scope.

2.15 Professional fees and TCO.

Professional fees definitely impact on the TCO as they form part and parcel of it and the latter will also depend on how much design consultants are charging. In SA however, professional fees are somehow regulated and the tariffs can be found with relevant professional bodies but practically they simply act as guidelines.

Project owners are conscious of the TCO but at the same time may not be bent to engage low charging fee consultants for fear of compromising standards (Hoxley 2000 cited in Yean Yng Ling 2004). This might be true to design and build projects but it may not necessarily be the same in other forms of project procurement as may be applicable in SA's construction industry where the network factor plays a major role.

It is obvious that projects' quality delivery depends on the design professionals' competence and the latter comes with a price which may in turn depend on how you selected them. The gap here is the establishment of whether competition in professional consultancy appointment does indeed directly or indirectly impact on TCO in SA's construction industry. Their research is definitely relevant to this study as it takes cognisance of the cost consultancy services which impacts TCO but it fell short of unpacking the link between the fees and procedures of engagement.

2.16 Client relationship factor as opposed to competition based consultants' selection (RFP) approach.

As seen previously, consultants are normally chosen based on their skills and reputation. Nonetheless what may be apparent in SA private sector construction is that the relationship factor between a client and the consultant is likely to pre-dominate as a major attribute in consultant's selection obviously based on a rage of factors such as trust, past history of the country's economic demographics, honesty and professionalism.

In this regard, working relationship is likely to be put at the forefront but certain attributes such as professionalism could as well be incorporated in RFP document. Understandably, clients always want to maximise profits as competition itself comes with a cost implication. Ling and Tan (2001) describe this networking factor to be comprised of "*personal relationship*, *trust* and *reciprocity*". It hinges on the fact that closeness and familiarity leads to appreciably better performance in responsibilities involving decision making and problem solving due to greater degree of team commitment and collaboration (Jehn and shah 1997 cited in Ling and Tan 2001). Their research feeds into this study in SA as the

latter tries to establish which consultant selection approach is more predominant in SA private sector particularly Gauteng.

Whereas it may be good and rather cheaper in terms of cost to select a consultant based on the relationship factor, there is a high risk that this approach is likely to limit innovation, while at the same time ostracise new entrants. The obvious fact is that an open RFP does not lend itself to dispensing and reciprocating of favours, the study of Ling and Tan (2001) therefore falls short of highlighting how the compromised aspect of competition would have affected TCO, innovation and new entrants.

2.17 Conclusion.

It has been noticed from the literature reviews that competition in the procurement of consultant services is crucial as it is likely to have a huge impact on innovation, project performance and facilitating new ideas/entrants.

Given that the design and build type of procurement may not be common in South African private sector construction industry, and based on the literature review, there is still a gap to bridge by investigating and finding out, especially within major players in this industry if indeed they do agree that competition in the procurement of professional consultancy services particularly ASP/C has affected the four aspects mentioned in the paragraph above. At the same time investigate if indeed there is a link between competition in the selection process of consultants and performance.

CHAPTER THREE
RESEARCH METHODOLOGY

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3.1 Introduction

This chapter entails the research approach/methodology, as well as the sampling techniques adopted in attempting to tackle the relationship between the competition aspect in construction consultancy services procurement and performance as well as innovation in SA' private sector.

There are basically two wide categories of research methodologies, notably qualitative and quantitative. Cooper and Schindler (2008) describe quantitative research as one that attempts to measure something precisely with regards to consumer behaviour, knowledge, opinions or attitudes.

According to Leedy (2004), quantitative research methods sometimes referred to as the *"positivist"* approach, attempts to answer relationships or correlation between measurable variables by use of experiments. According to Cooper and Schindler (2008) quantitative data mainly consists of response from the participant that are coded, categorised and reduced to figures which can be explained by use of statistical analysis.

On the other hand qualitative research is an interpretive research that focuses on developing an understanding through description (Cooper and Schindler, 2008). It is sometimes referred to as "post positivist" approach. In this approach, research question(s) is put at the fore front in lieu of a hypothesis, which is proceeded by extensive and descriptive data collection from a comparatively small sample size as compared to quantitative approach.

This research adopted the use of both qualitative and quantitative methods with the former dominating. In the latter some statistical means such as the severity index and correlation coefficient have been used while in the former a more descriptive approach has been taken up.

3.2 Data collection instrument.

In general, the most commonly used data collection instruments are questionnaires and interviews and each approach has its own advantage and disadvantage. In this instance however, there are basically three reasons to explain why questionnaires were preferred for this particular study in lieu of interviews:

- Given the nature of information required, questionnaires were regarded as more relevant and allowed respondents time to reflect on the questions.
- Secondly, questionnaires were cost-effective as compared to interviews, given the limited resources.
- Questionnaires minimise both participants and interviewer errors, given that some were unwilling to divulge information leave alone chatting to unfamiliar persons.

The choice of this approach was also based on the nature of the research itself given that no one in a business would be comfortable to engage or hear the word competition on his/her business as indeed it's like " an emperor leading a revolution against his own dynasty". The study was more context-bound, largely (but not all) with unknown variables, with flexible guidelines and was dependent on personal views as well as how things were done/handled in the past. All the above aspects therefore justified the use of questionnaires in lieu of interviews.

3.2.1 Questionnaires design and structure.

The questionnaires (appendix no.1) were used purposely for collecting the necessary data and information from the sample frame. The topic, objectives of the study as well as the research problem described in chapter one were used to design and formulate the appropriate questionnaires that were used throughout the study.

The questionnaire methodology was structured to be short, simple and straight forward for the respondents to be able to evaluate, genuinely state their opinion and rank the stated factors according to their influence and significance with regards to addressing highlighted research objectives. The questionnaires were subdivided into five sections.

The first section entailed general information regarding the firm. The second set of questionnaires dealt with specific information with regards to the respondents' perception on the service procurement process particularly ASP/C as well as the competition aspect as it manifests in service procurement procedures. This builds from the argument and gap raised in the literature review under the last paragraph of section 2.14 herein among others. As defined earlier in chapter one, "competition" in this contest refers to "*an occasion on which a winner is selected among two or more contestants through a formal-evaluation of sources that uses pre-established rules/criteria (RFP*) that help provide a level platform*".

Based on the literature review therefore, it's in that light that prevailing factors characterising the selection process of design consultants were outlined and their degree of influence and significance assessed in order to determine the effects of lack of competition on TCO. Respondents were given all latitude to choose from in order to assess the selection/recruitment process of design consultants and this would fulfil the need to establish which route was more predominant in SA private sector consultancy service procurement as highlighted in the literature last paragraph of section 2.16 herein.

The third section is structured and oriented to the research objective of assessing the link between consultancy service procurement and performance. The gap was left by many researchers as noticed in the literature review such as Hoxely, Lewis, Yiu et al, Thomas and Chow to mention but a few. Participants were also given an opportunity to rank the effects of the method of service procurement on some of identified performance indicators. These include: "*extremely severe*", "*very severe effect*", "*severe effect*" and "*no severe effect*". It gave the respondents an occasion as stakeholders to rank this attribute based on what they believe is the true reflection of the industry. The justification of the choice of the likert-scale above being that once an aspect is positive, then, there is no need to investigate something that is good thus one ranking attribute of "*no severe effect*" was deliberately left to sufficiently represent all positive aspects.

The fourth section focused on innovation as linked to service procurement and too was derived from the literature review specifically in paragraphs five to seven of section 2.8 herein to explore advantages of allowing competition to prevail in the selection process of consultants. It was also designed to address the research problem in chapter one, section 1.3 and shortfalls consequently highlighted in the literature reviews as previously stated by assessing the perceptions of the major stake holders (ASP/C) towards the identified aspect of **innovation**, **facilitating new entrants** and **improving performance** respectively. The importance of these three aspects emanate from the literature reviews as highlighted by researchers like Lipimile (2004), Brusick et al (2004) as well as Lewis (2005) and the argument of how they are manifested in SA private sector, is thence built in here to be researched/investigated. Section five was open-ended questions aimed at gathering participants' contribution on ascertaining the bottlenecks, and suggesting areas of improvements on the current environment of service procurement.

3.2.2 Source of data and data capture

This was done through:

- Scheduling appointments and visiting big, medium and emerging architectural service providers/consultants that are based in the Johannesburg metropolitan area. Given the qualitative nature of the research and the data collected, both alpha and alpha-numeric coding were used to operationally put together the description and categorisation of information gathered from the feedback of questionnaires.

3.3 The population.

As stated in chapter one notably in scope of research, one category of population was chosen as to be researched markedly:

- Population: Design consultants

Much as we would have liked to incorporate the clients' side of the story, due to reasons explained in chapter one, the clients' perspective could not to be researched. Nonetheless it was recommended among the proposition for further study in chapter five herein.

In the population selection there were restrictions namely:

a)- Population: Restricted to design consultants, precisely architectural services procurement. It has been noticed from the literature reviews that the design parameter itself is the biggest contributor to the budget stress and this means that the design consultants, namely the architects play a major role in contributing to budget constraints. The other consultants such as quantity surveyors, project managers, among others, play a bigger role in advising and controlling the budget so as to stay within the project parameters.

It is in that context that focus was shifted to the procurement of architectural services in SA private sector construction projects to address this concern by incorporating their side of the story.

3.4 Sampling theory - a brief overview.

Sampling is defined as a process of choosing/selecting a representative subset of observations from a population to determine its characteristics, that is. population parameter under study. There are two methods of sampling:

- ☞ Non-probability sampling method and;
- ☞ Probability sampling method

3.4.1 Non-probability sampling method.

This method entails any sampling method in which observations are not selected randomly. There are basically three types:

a)- Convenient sampling: This refers to a sample drawn to suit the convenience of the researcher.

b)- Judgemental sampling: This refers to when a researcher selects the sample based on the judgement.

c)- Quota sampling: Here the population is divided into segments and quota observation is collection/drawn from each segment.

However, this method was found not appropriate for the study as it does not suitably complement the research objectives.

3.4.2 Probability sampling method.

This includes all selection methods where the observations to be included in the sample have been selected on purely random (chance) basis from the population. There are basically four methods of randomly selecting observations/sample units from the population:

a)- Simple random sampling: In this method, each observation/unit in the entire population has an equal chance of being selected.

b)- Systematic random sampling: Here sampling begins by randomly selecting the first observation/unit and subsequent observations/units are selected at a uniform interval relative to the first.

c)- Stratified random sampling: In this case, the population is divided into segments or strata and sample units are drawn from each stratum.

d)- Cluster random sampling: In this sampling approach, the population is divided into clusters, where each cluster is similar in profile to every other cluster. Clusters are then randomly selected and units within these randomly selected clusters are also randomly selected to give a true representation of the population parameter under study.

This can be illustrated further in the table, reproduced below, from Cooper & Schindler (2008), page 395:

Table 3.4: Probability Sampling Design-Summary Comparison

Probability Sampling Design-Summary Comparison		
Type	**One Advantage**	**One Disadvantage**
Simple random	Easy to implement.	Uses larger samples.
Systematic random.	Easy to determine sampling distribution of mean or proportion	If the population list has a monotonic trend, a biased estimate will result based on start point.
Stratified random.	Increased statistical efficiency.	Especially expensive if strata on the population have to be created.
Cluster random.	Provides an unbiased estimate of population parameters if properly done.	Often lower statistical efficiency due to subgroups being homogenous rather than heterogeneous.

****Source:** ***Cooper & Schindler, 2008: page 395.***

There are basically three reasons to explain why simple random sampling was chosen / found suitable for the study in lieu of the rest sampling methods as these are:

- It gives respondents/firms in the entire population an equal chance of being selected with no bias;
- The nature of the target group (not a big population in Gauteng);
- Easy to implement given the time constraint parameter highlighted in chapter one.

3.5 The chosen sampling method.

Cooper and Schindler (2003) describe a sample as a part of target group, so cautiously selected to represent the population. In this study, the sample size and the selection of respondents from different firms was purely a simple random selection. Therefore each firm had equal chances of being included. The mailing list of all registered architectural service providing firms based in Johannesburg was obtained from the directory obtainable on the official website http://architectafrica.com/architects-directory-sa. It provides a list of architectural practices in SA with their websites and it is from here that the sample respondents/firms were randomly selected. In this selected category, a target of over 30% respondents from different firms in the population was aimed and there were approximately a total of ± 43 architectural firms with their registered "*domicilium citandi et executandi*" in Johannesburg metropolitan area. The aim therefore was to achieve at least 13 firms or bigger sample responding to the questionnaire if not all.

Table 3.5: Sample Size and Population Frame

Category	Population Frame	Sample Frame	Target Sample Respondent
Population: Architectural Service Providers /Consultants (ASP/C)	30 - 40	34	>30% and above

3.6 Analytical techniques.

The following is the summary tree of the analytical techniques adopted in this research.

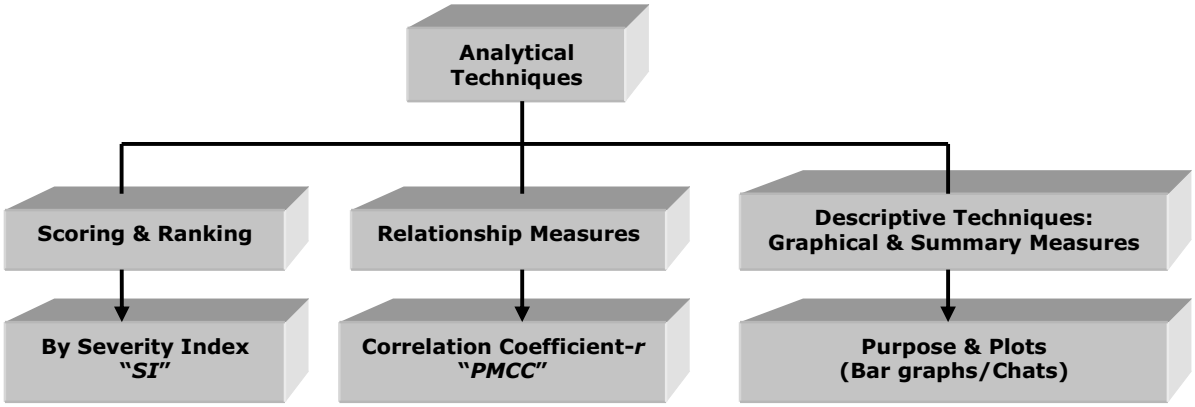


Figure 3.6: Analytical techniques adopted for this study (own adopted to suit the study).

Data Analysis, interpretation and presentation of the findings was done with the help of some of the pre-established tools that are statistical in nature coupled with a descriptive analysis for a way forward.

3.7 The selected research method.

In this research, the approach that was adopted entailed merging quantitative analytical techniques of coding, categorising, among others, to reinforce and explain the predominately perceived qualitative variable data responses from participants from different firms. It is in that light that the following was used in attempting to tackle this research.

- By use of specific questionnaires that are study objectives oriented particularly to suit identified population.
- Intensive literature reviewing of any previous researches done that are considered pertinent to the topic such as those highlighted in paragraph six of section 3.2.1 herein among others.

3.8 Why the selected method.

The choice of the method was based on the following aspects:

- The type of research itself and questions that needed to be addressed as the anticipated variables would need a combination of both qualitative and quantitative techniques to complement each other.
- The control parameters of sample variables / respondents such as those highlighted in the research problem notably innovation, performance and facilitation of new entrants that may not be necessarily be discrete but rather of qualitative in nature.
- The magnitude/degree of convergence that was required to reflect on certain issues in the SA's private sector consultancy services as this required a more kind of descriptive approach to unpack the dilemma.
- Questionnaires in lieu of interviews provide respondents with a degree of flexibility to express themselves at a time convenient to them, without being swayed or influenced by the interviewer's perspective.

CHAPTER FOUR
DATA ANALYSIS, FINDINGS AND PRESENTATION

CHAPTER FOUR
DATA ANALYSIS, FINDINGS AND PRESENTATION

4.1 Introduction

This chapter presents and discusses the findings from the data collected from the participants/firms. It is analysed where applicable using statistical methods.

4.2 Data capture

The data collection instrument comprised of five (5) sections specifically designed to address research objectives as outlined in chapter one. These sections are hereafter elaborated:

- Section 1- *Introduction*: This section aimed at knowing the background of the respondents/firms and it entailed general information regarding the firms.
- Section 2- *Service Procurement Process*: This section sought to assess consultants' service procurement process and the effectiveness of the process in order to get the right consultants. It aimed at understanding the procurement process used in the hiring/recruiting architectural service providers/consultants.
- Section 3- *Performance and Service Procurement*: This section aimed at establishing the link between service procurement methods used and performance on projects. It sought to find out how consultants have performed in their service delivery and the performance of the project within the project parameters, particularly the cost parameter.
- Section 4- *Innovation in Service Procurement*: This section was designed to ascertain the impact of service procurement method on innovation within the socio-economic context of SA. It was oriented to ascertain whether by subjecting ASP/consultants to some degree of competition or selection criteria, it would enhance innovation among themselves and therefore worth recommending.
- Section 5- *General Improvements in Service Procurement*: This section targeted the opinions/suggestions of stake holders in ascertaining the bottlenecks and thus

suggesting areas of improvement in the current environment of consultants' service procurement in SA.

4.3 Challenges in data collection

Like any other research, one of the biggest challenges encountered during the data collection was the reluctance of some stakeholders to participate in providing information. This disinclination was related to the nature of information required, despite the assurance of total privacy of participants and that it was purely for academic purposes as some were doubtful to where at end the information would be used. It was also noted that some participants who are well established in the industry viewed it as intrinsic information affecting their private style/way of doing business and thus to them not worth participating. Only 48% of the randomly selected participants responded to the questionnaires whereas rest (52%) did not respond as shown bellow by a pie chat diagram figure 4.3. Although this was a big challenge it was regarded as reasonable enough to represent the population.

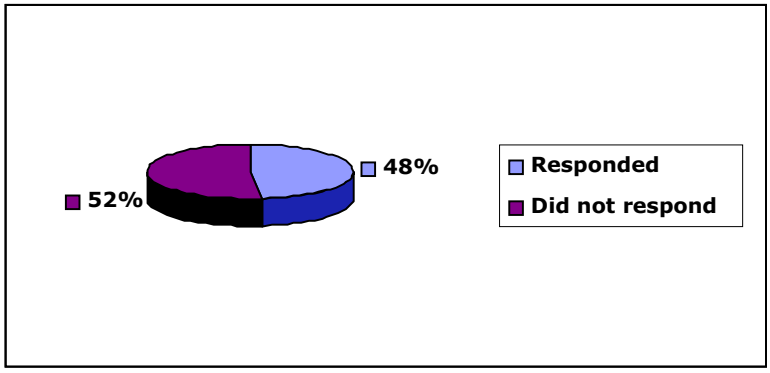


Figure 4.3: Percentage responses received from participants.

4.4 Data editing and coding

Given the qualitative nature of the data collected, it was inevitable that both alpha and alpha-numeric coding be used for description and categorisation.

4.4.1 Coding of the specific responses to questionnaires in section one of the data collection instrument were as follows:

a) - Specific background information which entailed ascertain specific areas of specialisation. This information was very crucial and hence these areas were divided into six major categories in the industry namely commercial, leisure, interior design, landscape design, residential and others. The latter meant to represent a combination of any of the above or other specifics not listed. These were thus coded as follows:

- WSP-A = Area of work specialisation being commercial properties
- WSP-B = Area of work specialisation being leisure properties
- WSP-C = Area of work specialisation being interior designer
- WSP-D = Area of work specialisation being landscape design
- WSP-E = Area of work specialisation being residential properties
- WSP-F = Area of work specialisation being others i.e. a combination or more than one type.

b) - General experience in the construction industry

- EXP-A = General experience being under five years
- EXP-B = General experience being five to ten years
- EXP-C = General experience being ten to fifteen years
- EXP-D = General experience being fifteen to twenty years
- EXP-E = General experience being over twenty years

c) - Project cost limit that the firm can comfortably handle

- CAP-A = Capacity to handle up to five million rand project
- CAP-B = Capacity to handle between five to twenty million rand project
- CAP-C = Capacity to handle between twenty to fifty million rand project
- CAP-D = Capacity to handle between fifty to two hundred million rand project
- CAP-E = Capacity to handle over two hundred million rand project

d) – General composition of clients that provide jobs to ASP/C

- CLT-A = Client being government
- CLT-B = Client being local government/municipalities
- CLT-C = Client being private investors/developers
- CLT-D = Client being others (e.g. individuals, more than one, etc)

4.4.2 Coding of the specific responses to questionnaires in section two (*assessment of consultants' service procurement process and its effectiveness*) of the data collection instrument were as follows:

a)- Participants' indication based on their experience, of how often the following competition indicators i.e. *formal invitation, pre-determined selection criteria* and *formal valuation of sources*; are manifested in the industry during the selection/recruitment of architectural service providers / consultants:

- Rating R1 = response being-always used in the industry
- Rating R2 = response being-sometimes used in the industry
- Rating R3 = response being-rarely used in the industry
- Rating R4 = response being-non-existent used in the industry

b)- Participants' indication with regards to the level of competition in the industry baring in mind its context and meaning as specifically defined for this research in chapter one:

- Rating L1 = response being-total lack of competition in the industry
- Rating L2 = response being-little competition in the industry
- Rating L3 = response being-moderate competition in the industry
- Rating L4 = response being-high competition in the industry
- Rating L5 = response being-extremely high/stiff competition in the industry

4.4.3 Coding of the specific responses to questionnaires in section three (*performance and service procurement*) of the data collection instrument were as follows:

- Rating S1 = response for-"No severe effect/impact"
- Rating S2 = response for-"severe effect/impact"
- Rating S3 = response for-"Very severe effect/impact"
- Rating S4 = response for-"Extremely severe effect/impact"

As stated in chapter three herein, all positive aspects were summed into one rating as it wouldn't be worthwhile investigating something that is good.

4.4.4 Section four questionnaires were straight forward requiring "yes" or "no" answers therefore no specific coding was necessary.

4.4.5 Section five questionnaires were more open-ended, requiring mere discussion of individual respondent's perception and recommendation on what can be improved in the current system.

4.5 Presentation, analysis and discussion of findings

The specifics of findings based on the data collection instrument as aligned to research objectives are hereafter unpacked.

4.5.1 Background of the respondents

Section one of the data collection instrument aimed at knowing the background of the respondents and it entailed general information regarding the respondents/firms. The demographics of the respondents were as follows:

4.5.1a) - Area of work specialisation

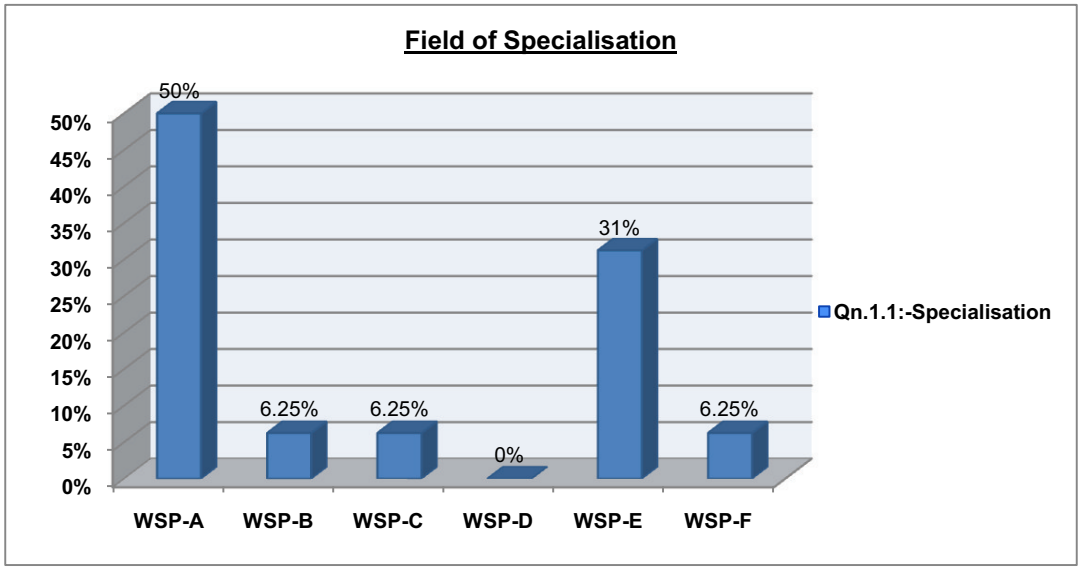


Figure 4.5.1(a): Percentage area of work specialisation.

- WSP-A = Area of work specialisation being commercial properties
- WSP-B = Area of work specialisation being leisure properties
- WSP-C = Area of work specialisation being interior designer
- WSP-D = Area of work specialisation being landscape design

- WSP-E = Area of work specialisation being residential properties
- WSP-F = Area of work specialisation being others i.e. a combination or more than one type.

Discussion

As seen from the graph above, commercial sector was the area/field of specialisation that dominated amongst the respondents while the least was landscaping, i.e. 50% as compared 0% for landscaping. Another area that was reasonably represented was residential properties.

4.5.1b) - General experience

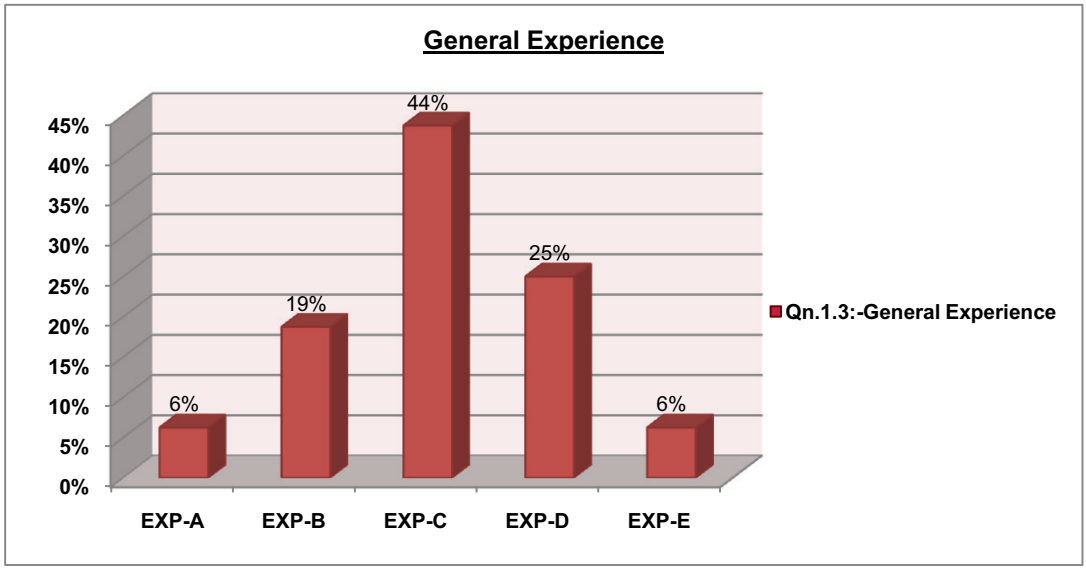


Figure 4.5.1(b): Percentage years of general experience.

- EXP-A = General experience of the firm being under five years
- EXP-B = General experience of the firm being five to ten years
- EXP-C = General experience of the firm being ten to fifteen years
- EXP-D = General experience of the firm being fifteen to twenty years
- EXP-E = General experience of the firm being over twenty years

Discussion

Luckily, as shown from the above graph, most of the respondents (44%) have been in the field for quite some time (i.e. between 10-15years), thus an ideal reason to rely on their responses as they are based on the **vast experience** and hands-on bigger projects. 25% of the respondents had general experience of between fifteen to twenty years. In terms of the general experience aspect, it was indeed well represented across the pre-selected categories.

4.5.1c) - Project cost limit/capacity to handle based on firm's available resources

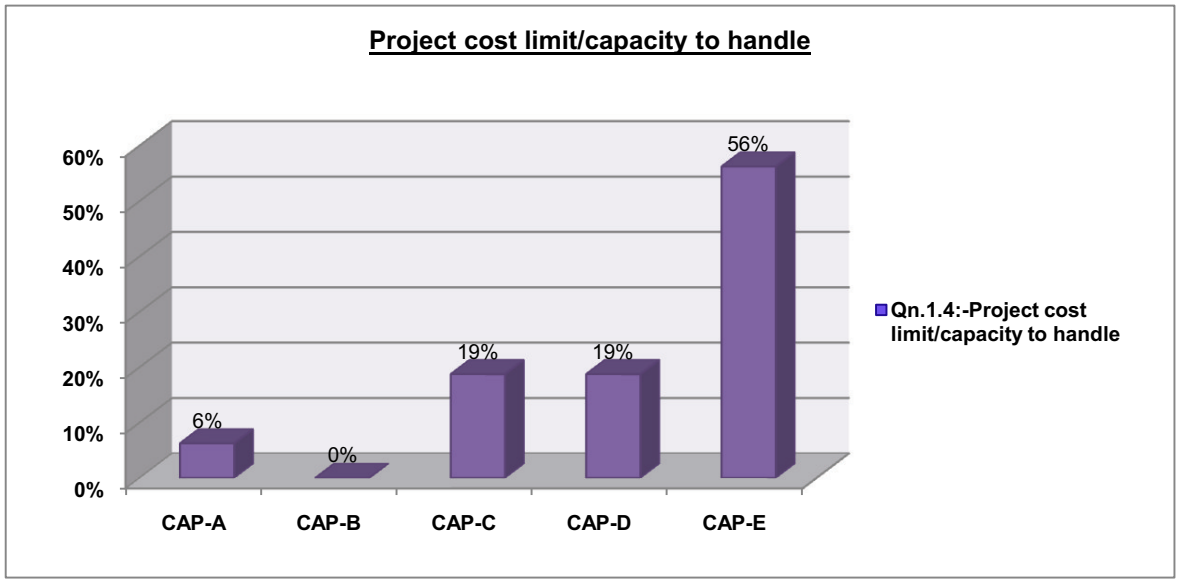


Figure 4.5.1(c): Percentage project cost/capacity to handle.

- CAP-A = Capacity to handle up to five million rand project
- CAP-B = Capacity to handle between five to twenty million rand project
- CAP-C = Capacity to handle between twenty to fifty million rand project
- CAP-D = Capacity to handle between fifty to two hundred million rand project
- CAP-E = Capacity to handle over two hundred million rand project

Discussion

With regards to capacity limit of respondents, 56% said they could comfortably handle an over two hundred million rand project while 19% said they are comfortable with projects ranging between twenty to hundred million rand. There were also quite a few emerging

with the capacity to handle up to five million rand project and it was important to have them participate in this study.

4.5.1d) - General composition of clients/jobs provider

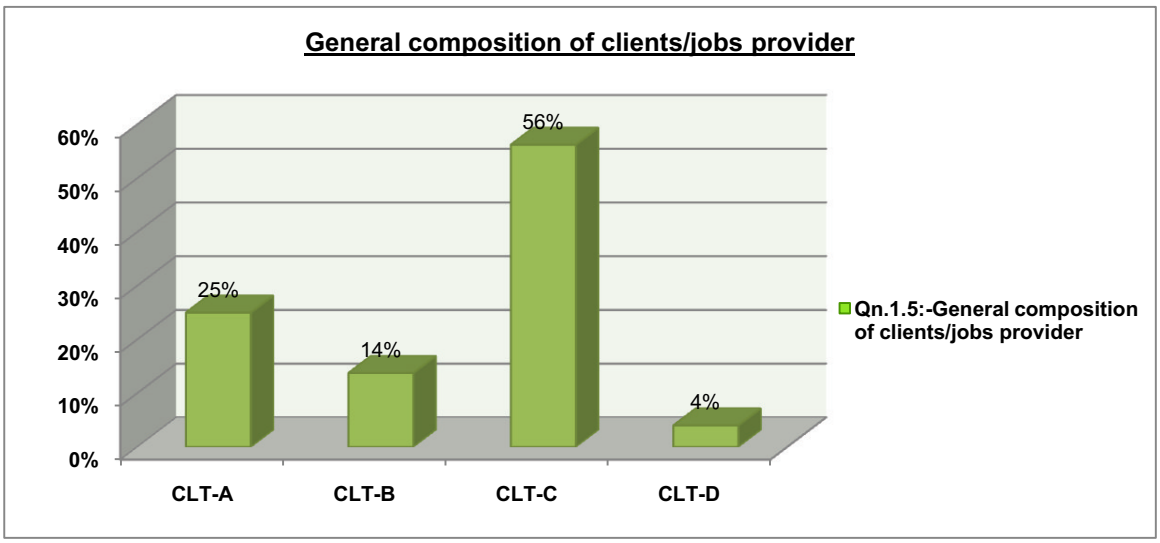


Figure 4.5.1(d): Percentage composition of clients/job providers.

- CLT-A = Client being government
- CLT-B = Client being local government/municipalities
- CLT-C = Client being private investors/developers
- CLT-D = Client being others (e.g. individuals)

Discussion

Based on the graph shown above, it was shown that the private sector plays a bigger role in providing jobs to ASP/C, followed by the government. Most of the respondents (56%) were actively involved in on going private sector projects as compared to government.

4.5.2 Assessment of consultants' service procurement.

The first objective of this study was to assess consultants' procurement process, specifically ASP/C. It sought to understand the procurement process in the hiring/recruiting of architectural service providers / consultants. It also sought to establish whether there is always an occasion on which a winner is selected among two or more contestants through a formal-evaluation of sources that uses pre-established selection rules/criteria (RFP*),

which help provide a level platform. Section two of the data collection instrument was specifically oriented to address this aspect of the research objective:

a)- The participants' responses regarding the current consultants' service procurement in SA are presented here below in figure 4.5.2(a).

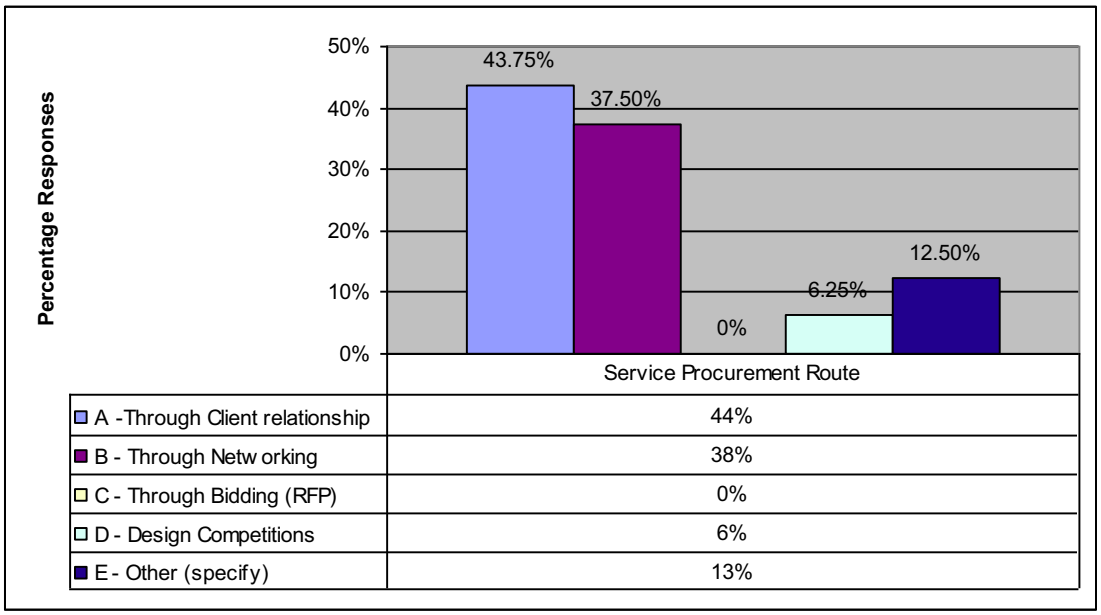


Figure 4.5.2(a): Percentage selected responses on predominant route/approach.

Discussion

Based on the figure 4.5.2a), deduction from the data presented revealed that 44% believed client relationship plays a big role in selecting/recruiting ASP/C. At the same time 38% also believed consultants get their way in business through networking. Only 6% believe design competitions are still crucial in selecting/recruiting ASP/C in SA. Those participants who chose "*other*" as their response reached 12.5% and were asked to specify, and some said "*all the above*" while others said it's "*through reputation & specific experience in particular projects*". None of the respondents (0%) believed that RFP was existent in the industry. This outcome therefore confirmed that the above approach i.e. "*client relationship*" and "*networking procurement*" still remains the most pre-dominant way of recruiting ASCP/C in SA's construction industry. It was also evident in the responses that these are the major routes in which individual firms secure their jobs.

An attempt was made to check whether there is any correlation between the work specialisation findings in figure 4.5.1(a) and the service procurement route findings in figure 4.5.2(a) above. Using correlation analysis to measure the strength of a linear association between the two random variables hereafter named x and y to represent the findings in the two figures respectively, the following was attained:

Pearson's correlation coefficient $r_{xy} = \frac{ss_{xy}}{\sqrt{ss_{xx}\, ss_{yy}}}$ .....(i)

Where: $ss_{xy} = \sum_{i=1}^{n} - X)(y_i - Y) = \sum_{i=1}^{n} x_i\, y_i - \frac{1}{n}(\sum_{i=1}^{n} x_i)(\sum_{i=1}^{n} y_i)$. .....(ii)

$: ss_{xx} = \sum_{i=1}^{n}(x - X)^2 = \sum_{i=1}^{n} x^2 - \frac{1}{n}(\sum_{i=1}^{n} x_i)^2$. .....(iii)

Therefore $r_{xy} = \frac{n\sum xy - \sum x.\sum y}{\sqrt{[n\sum x^2 - (\sum x)^2]\,[n\sum y^2 - (\sum y)^2]}}$ .....(iv)

Thus from the findings in figures 4.5.1(a) and 4.5.2(a) respectively, n=5; $\sum_{i=1}^{5} x_i = 93.5$; $\sum_{i=1}^{5} y_i = 101$; $\sum_{i=1}^{5} x_i y_i = 2704.75$; $\sum_{i=1}^{5} x_i^2 = 3539.125$; and $\sum_{i=1}^{5} y_i^2 = 3585$; hence by computing r_{xy} from equation (iv) above:

$$r_{xy} = \frac{(5 \times 2704.75) - (93.5 \times 101)}{\sqrt{[(5 \times 3539.125) - (93.50)^2] * [(5 \times 3585) - (101)^2]}}$$

$$\therefore = r_{xy} = 0.490650508$$

Interpreting this value result above; it is understandable from statistics that correlation does not necessarily imply causation but causation will imply correlation. The low positive correlation of 0.49 as derived above does not necessarily imply that the variables are unrelated but simply that the relation is poorly described by a straight line. We can therefore say that there is no strong linear correlation between service procurement route and work specialisation whether commercial, residential or otherwise.

b)- On how some indicators of competition i.e. *formal invitation*(*Qn.2.1*), *pre-determined selection criteria* (*Qn.2.2*) and *formal valuation of sources* (*Qn.2.3*); are manifested in consultants' selection procedures: participants had the following responses (see figure 4.5.2(b) below):

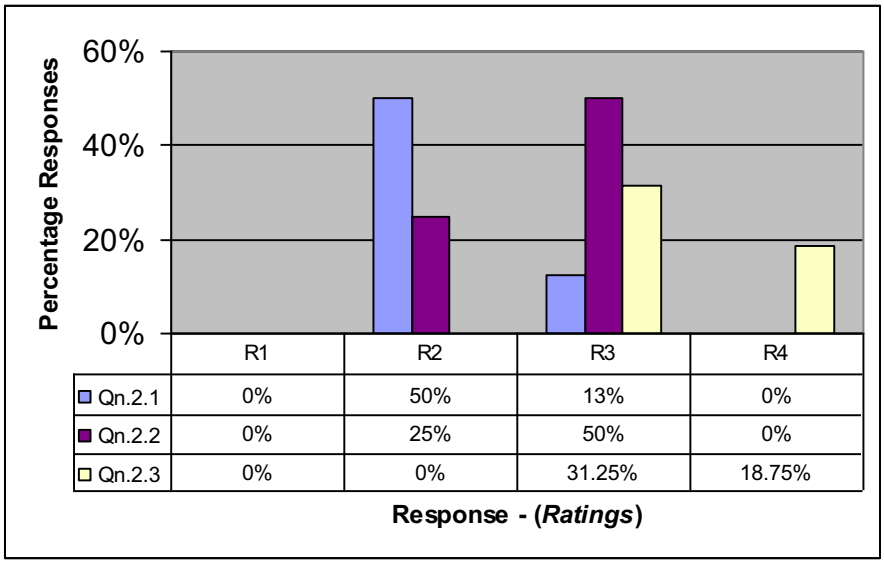


Figure 4.5.2(b): Percentage rating responses competition indicators.

- Rating R1 = response being-always used in the industry
- Rating R2 = response being-sometimes used in the industry
- Rating R3 = response being-rarely used in the industry
- Rating R4 = response being-non-existent used in the industry

☞ The term "*competition*' here being kept in its context as defined in chapter one.

Discussion

As part of the assessment of consultants' procurement process, during the study respondents were given an opportunity to provide an indication of how often some indicators for competition namely "*formal invitation*", "*pre-determined selection criteria*" and "*formal valuation of sources*" are manifested in the industry, during the selection/recruitment of architectural service providers/consultants. Deduction from figure 4.5.2 b) showed the following:

- On the use of formal invitation: 50% of respondents believed it's sometimes used while 13% believed it was rare in the industry. The rest, 40% were silent on this issue.
- On the use of pre-determined selected criteria: 25% of respondents believed it's sometimes used while 50% believed it was rare in the industry. The rest 25% were silent on this issue.

- On the use of formal valuation of sources: 31% of respondents believed it's sometimes used while 19% believed it was rare in the industry. The rest, 50% were silent on the issue.

c)- With regards to rating the level of competition in the consultants' selection process, participants' opinion were as follows (see figure 4.5.2(c) below):

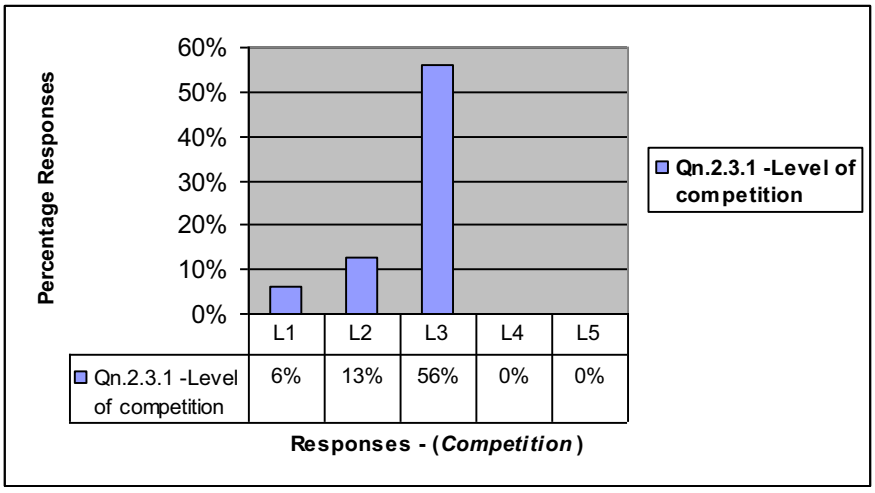


Figure 4.5.2(c): Percentage rating responses on level of competition.

- Rating L1 = response being-total lack of competition in the industry
- Rating L2 = response being-little competition in the industry
- Rating L3 = response being-moderate competition in the industry
- Rating L4 = response being-high competition in the industry
- Rating L5 = response being-extremely high/stiff competition in the industry

☞ Again the term "*competition*' being kept in its context as defined in chapter one.

Discussion

Also forming part of the assessment of consultants' procurement process, was the need to establish whether there was enough competition by rating the level on a five-point scale as shown in figure 4.5.2 c) - with the term "*competition*" being kept in its context as defined in chapter one. The results revealed the following:

- 6% of respondents believed there was lack of competition, 13% believed there was little competition while 56% believed a moderate level of competition existed in the industry. The rest, i.e. 25% were non committal.

Conclusion

In a nut shell, with regards to the first objective of this research which was to assess consultants procurement process specifically ASP/C, the study revealed that most consultants have been securing most of their assignment/tasks through "*client relationship*" and "*networking*" rather than through competition or bidding.

4.5.3 Link between service procurement and Performance.

Section three of the data collection instrument sought to establish the link between service procurement and performance of consultants which was in line with research objective three. It investigated the following a - d aspects:

a)- The participants' perception of whether there is a link between consultancy service procurement and project delivery, particularly the project's final construction cost parameter (*Qn.3.1*) and;

b)- The participants' perception of whether the method used in the procurement of Architectural service providers/consultants affects performance with regards to project's scope change (*Qn.3.2*). The results were as follows (see figure 4.5.3(a/b) below).

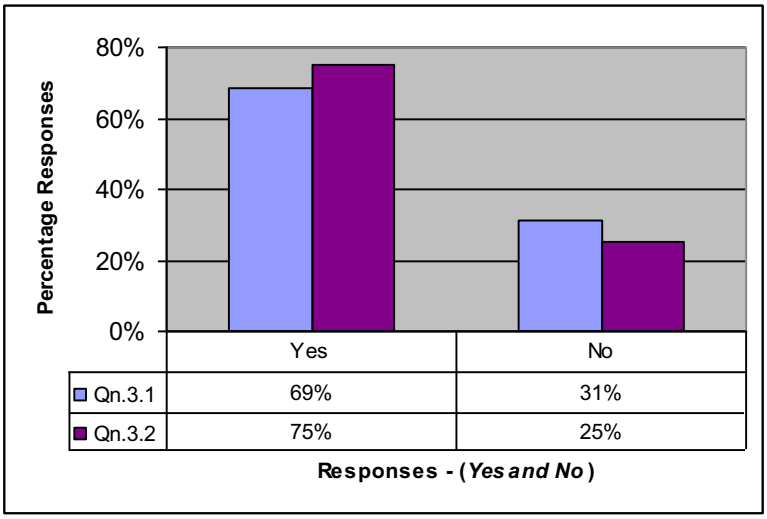


Figure 4.5.3(a/b): Percentage responses of yes/no from participants.

Discussion: figure 4.5.3 a/b

The findings in figure 4.5.3 a/b) revealed that there is a strong link between consultancy service procurement and project delivery, particularly the project's final construction cost

parameter. This is a perception of approximately 67% of the participants. Nonetheless, approximately 34% did not believe so as they responded contrary by saying there was "No Link".

With regards to scope-change parameter of performance, an overwhelming majority of participants, i.e. 75% believed that the method used in the procurement of ASP/C strongly affects performance in this perspective. The incompleteness aspect of any design is likely to lead to scope adjustments, which in turn affects projects final cost hence a procurement route/procedure that leads to selecting the right consultant will minimise unnecessary scope changes.

c)- The participants' perception by rating service procurement in affecting project's performance with respect to final project cost (*Qn.3.3*) and;

d)- The participants' perception by rating service procurement in affecting project's performance with respect to project's consequent scope change (*Qn.3.4*). The results were as follows (see figure 4.5.3(c/d) below).

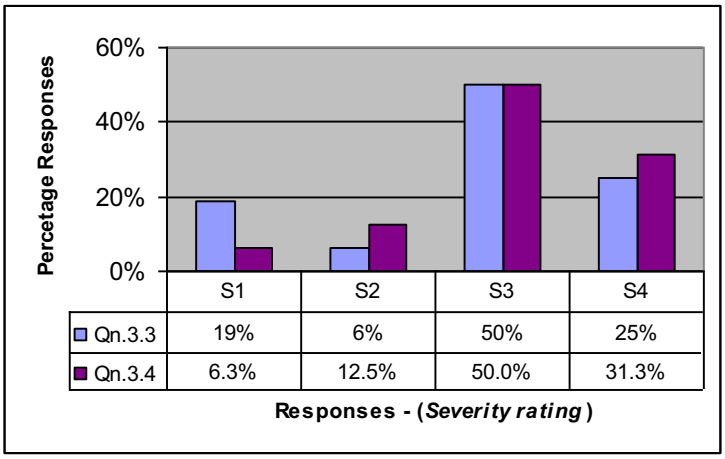


Figure 4.5.3(c/d): Percentage responses on severity rating by participants.

- Rating S1 = response for-"No severe effect/impact"
- Rating S2 = response for-"severe effect/impact"
- Rating S3 = response for-"Very severe effect/impact"
- Rating S4 = response for-"Extremely severe effect/impact"

Discussion: figure 4.5.3 c/d

The third and fourth part of this section of the data collection instrument focused on the severity of service procurement in affecting performance. The degree of influence/ effects of the method of service procurement on project's final cost as well as it's impact on project's consequent scope change or design alterations were assessed. The analysis of the effects proceeded with the severity index computation that was adopted to rank the factors in accordance with their degree of influence in affecting cost as well as scope changes. The severity index SI was calculated as follows:

- $SI = {}^{4}\sum_{i=1} (S_i * X_i/3)\ x100$

c)- The frequencies for responses in Qn.3.3 regarding the effects of method of service procurement on project's final cost were:

- 1=S1 = No of responses for-"No severe effect/impact"……$X_1 = 3 \rightarrow (0)$
- 2=S2 = No of responses for-"severe effect/impact" ……$X_2 = 1 \rightarrow (1)$
- 3=S3 = No of responses for-"Very severe effect/impact" ……$X_3 = 8 \rightarrow (2)$
- 4=S4 = No of responses for-"Extremely severe effect/impact" ……..$\underline{X_4 = 4 \rightarrow (3)}$

Total responses... $X_i = 16$

Thus, severity index SI for Qn.3.3:

- $SI = \underline{[(4*3) + (8*2)+ (1*1) + (3*0)]/16 \times 100}$
  3
  $= \underline{60.12}\%$

d)- Unlike the previous factor, the frequencies for responses in Qn.3.4 regarding the impact of method of service procurement on project's consequent scope change or design alterations turned out to be of higher ranking as shown below:

- 1=S1 = No of responses for-"No severe impact"……$X_1 = 1 \rightarrow (0)$
- 2=S2 = No of responses for-"severe impact" ……$X_2 = 2 \rightarrow (1)$
- 3=S3 = No of responses for-"Very severe impact" ……$X_3 = 8 \rightarrow (2)$
- 4=S4 = No of responses for-"Extremely severe impact" ……..$\underline{X_4 = 5 \rightarrow (3)}$

Total responses... $X_i = 16$

In this second case, the severity index SI for Qn.3.4 was thus:

- $SI = \underline{[(5*3) + (8*2)+ (2*1) + (1*0)]/16 \times 100}$
  3

= 68.75%

If all the participants had answered "*not severe*", then the SI would be zero, which means it is not relevant. On the other hand if all participants had answered "*extremely severe*", then the SI would be 100%, which means it is regarded as the most important and influential factor. Nonetheless, any severity index that is above average i.e. >50% is considered critical and hence needs to be addressed as a matter of concern.

Conclusion

With regards to the third objective of this research that sought to establish the link between service procurement and performance, the study revealed that there was indeed a strong link between service procurement and performance. Based on the analysis shown above, these two link aspects of service procurement and performance had SI's in the rage of 60 – 70% which indicates that they were regarded by participants as highly relevant in affecting final project cost as well as impacting on scope change.

4.5.4 Innovation and service procurement

Section four of the data collection instrument sought to ascertain the impact of service procurement method on innovation within the socio-economic context of SA. It was specifically linked to research hypothesis verification. It investigated the following:

a)- The participants' opinion on whether Architectural services providers / consultants be subjected to some degree of competition or selection criteria (*Qn.4.1*) and;

b)- The participants' view, if they think by subjecting architectural service providers/consultants to some degree of competition or selection criteria, would enhance innovation among themselves (*Qn.4.2*). The results were as follows (see figure 4.5.4(a-to c) hereafter.

c)- The participants' opinion on whether by subjecting Architectural service providers/consultants to some degree of competition or selection criteria would facilitate new entrants and allow new ideas to evolve. The results were as follows (see figures 4.5.4(a - c) hereafter.

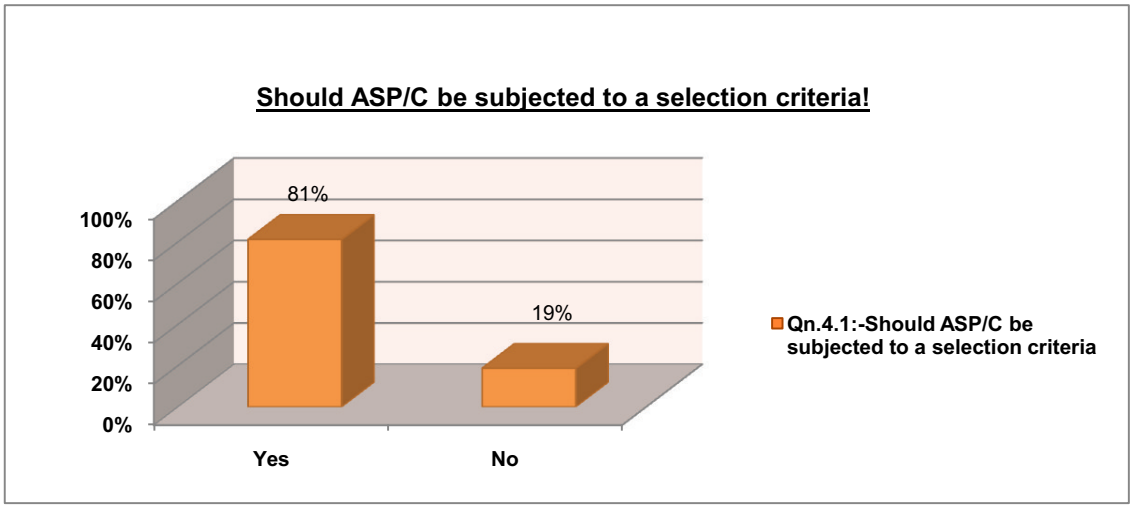


Figure 4.5.4 a): Percentage of yes and no responses on Qn.4.1 above.

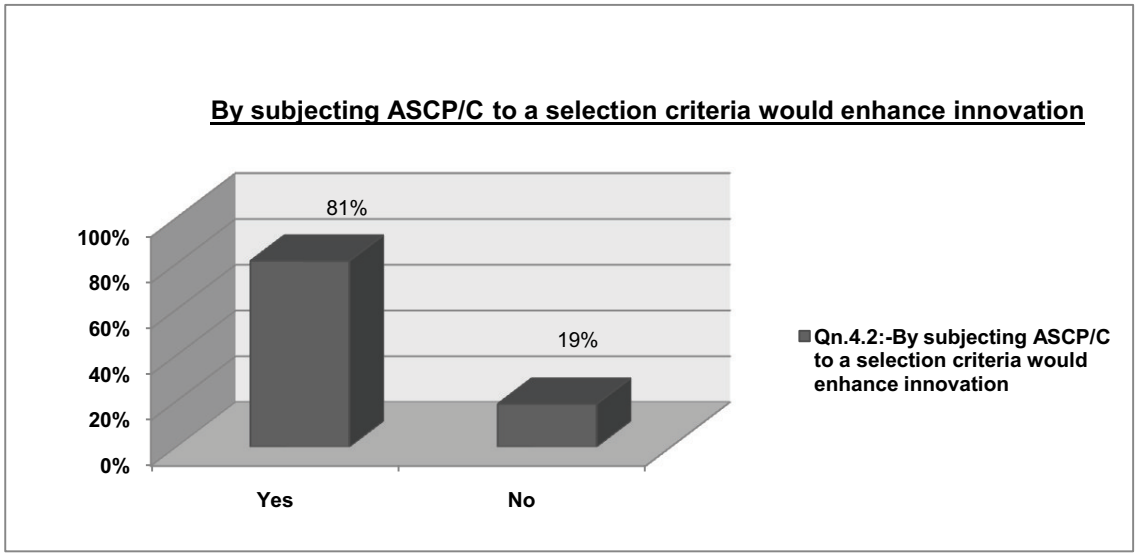


Figure 4.5.4 b): Percentage of yes and no responses on Qn.4.2 above.

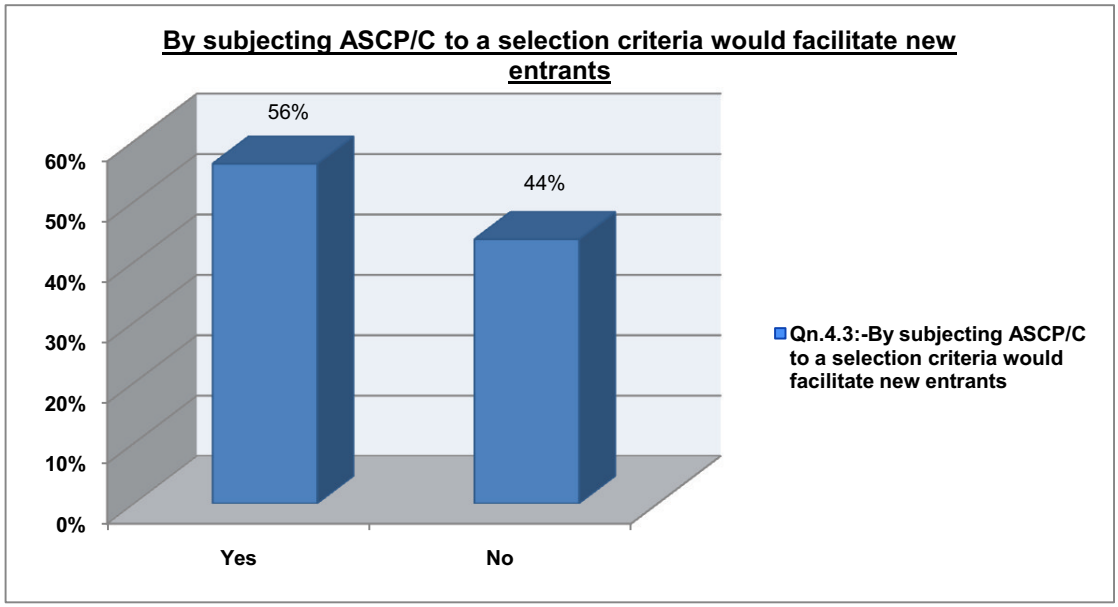


Figure 4.5.4 c): Percentage of yes and no responses on Qn.4.3 above.

Discussion: figure 4.5.4 a-c)

Based on outcome of the study as shown in figures 4.5.4 a - c), over 80% of the respondents were in support of ASP/C being subjected to some degree of competition or selection criteria. Equally the same number (i.e. 81%) believed that by doing so it would enhance innovation amongst them. On the other hand however, a reduced percentage of 56% believed that by subjecting architectural service providers/consultants to some degree of competition or selection criteria, it would facilitate new entrants and allow new ideas to evolve while 44% did not believe so. The variance being small, like any other business, the truth of the matter is that facilitating new entrants is always not a good idea to those already established in business.

The response to the open-ended question on what could be the most cost-effective and preferable criteria for selecting architectural service providers/consultants according to the participants, can be summarised here below as;

- By looking at experience/reputation based on successful projects handled / work on record.
- Design competition for public sector on huge projects as well as a combination of RFP and design competition for private sector.

4.5.5 Areas of improvement in service procurement

Section five of the data collection instrument was aligned to research objective four and it constituted open-ended questions. It sought to ascertain the bottlenecks and areas of improvements in the current service procurement environment in SA. The responses to these open ended questions are summarized below:

a) Much as bidding is considered healthy, it has a cost itself.
b) Some participants did acknowledge that the private sector needs to reform with regards to service procurement; to have something that supersedes the existing clients' relationship and networking. It may not be easy for new entrants to get the opportunity with the current situation.
c) There is need to establish "project team" appointment /selection procedures instead of approaching individuals.
d) The request for proposal or any other similar competitive approach would provide equal opportunity for everyone, taking into account the socio-economic context of SA.
e) Nonetheless, some participants highlighted that there is a gap between professionals and skilled people, particularly in the built environment thus in favour of the idea that the existing methods of networking and clients' relationship should not fall away.

4.6 Conclusion.

The following is a brief outlook of major findings as derived from this chapter of data analysis:

(i)- Client relationship and networking are still the major/predominant routes in acquiring ASP/C services.
(ii)- RFP service procurement approach is very rare but does exist in SA private sector construction services industry.
(iii)- There is a strong link between service procurement method used in acquiring ASP/C and performance.
(iv)- There is a shared view among some consultants that subjecting ASP/C to some degree of competition / selection criteria would enhance innovation.
(v)- It has also been revealed that subjecting ASP/C to some degree of competition / selection criteria would facilitate new entrants who might come with new ideas.

(vi)- The method of recruitment of consultants (service procurement) is very crucial as it can have a severe impact on performance in a long run.

(vii)- Nonetheless, the study revealed that there is no strong linear correlation between a particular category of secured projects such as commercial, residential, etc and the mode of acquisition/method of service procurement used to secure them.

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

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SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The following is the outline summary of the major findings as derived from chapter four herein this report:

- Client relationship and networking are still the major/predominant routes in acquiring ASP/C services.
- RFP service procurement approach is very rare but does exist in SA private sector construction services industry.
- This study revealed that there is a strong link between service procurement method used in acquiring ASP/C and performance.
- There is a shared view among architectural consultants that subjecting ASP/C to some degree of competition / selection criteria would enhance innovation.
- It was also revealed that subjecting ASP/C to some degree of competition / selection criteria would facilitate new entrants who might have potential new ideas for the evolution of the industry.
- The study also found that the method of recruitment of consultants (service procurement) is very crucial as it can have a severe impact on performance in a long run.
- The study however, did not find a strong linear correlation between a particular category of secured projects such as commercial, residential, etc and the mode of acquisition/method of service procurement used to secure them.

5.2 Conclusion

- The most predominant service procurement route in selecting ASP/C in SA, particularly in Johannesburg metropolitan area as agreed by respondents are:
    - Through clients' relationship.
    - Through networking.

- The study showed that consultants' selection process through formal invitation to submit their proposals technically referred to as "*Request for Proposals*" type of bidding is very rare and hence not commonly used in SA's private sector, particularly in Johannesburg metropolitan area.

The above two bullets of the study findings relate to what Ling and Tan (2001) herein section 2.16 described as being pivoted on trust, personal relations and reciprocity as these aspects could as well yield better results and thus were a set-off for competition which may itself come at a cost. The above study findings also answers the quest/mission of establishing what exactly was going on/happening in SA private sector as highlighted in the literature review under the same section.

- The study also showed that a moderate level of competition existed in SA's Private sector, "*competition*" being kept in its context as defined in chapter one. The traditional system of procuring service consultants based on long term relationship was more apparent.
- Participants believed that there was a strong link between performance in terms of final project cost and the service procurement method used. This is due to the fact that through bidding, consultants are given time that is reasonably enough to complete their proposals upfront thus leading to minimal or absolutely no changes, thus keeping the project in its original budget.
- The study also revealed that consultants/respondents agreed that the method used in selecting ASP/C affects performance with regards to projects' scope change. This is due to the fact that architects always advise clients to change scope which in turn affects projects original parameters. A selection method therefore, which would yield the right consultant and enhance performance.

Bullets three to five of the study findings above indeed complement the study by Lewis (2005) who stated that "competition based selection is a proxy to performance" as seen in section 2.14 herein. The study therefore bridged the gap left of establishing how the same

idea/concept manifests in SA private sector as highlighted in the literature review under the same section.

- The study findings showed that consultants rated the effects of method of service procurement on project's final cost as "*very severe,*" at the same time also rating the impact of method of service procurement on project's consequent scope change or design alterations as "*very severe*".

Bullets six of the study findings bridge the gap left by Thomas and Chow (2004) as highlighted in the last paragraph of section 2.12 herein. They generally tackled performance evaluation of consultants but fell short of directly linking consultants' performance to the mode of selection procedure used to acquire the services. This finding therefore, reveals the extent to which the latter affects the former.

- It was noted that some consultants were of the opinion that ASP/C should be subjected to some degree of competition or selection criteria rather than simply appointing them on basis of past relationship.
- At the same time consultants believed that subjecting Architectural service providers/consultants to some degree of competition or selection criteria would enhance innovation among themselves.

Bullets seven and eight of the study findings above link to the study by Lipimile (2004), as some consultants shared the same idea highlighted in his research that "*competition plays a role in providing strong incentives for achieving enterprise development through enhancing market access for new investors, protecting the economy from restrictive business practices as well as fostering economic efficiency and consumer welfare*".

- On the issue of whether subjecting Architectural service providers/consultants to some degree of competition or selection criteria would allow new ideas to evolve by facilitating new entrants, like any other business, the study showed that this was a sensitive issue. Even though the majority opinion supported the idea, the variance was not big (*i.e. 56:44%*) from those who disagreed.

- Like the issue of new entrants mentioned above, consultants were not quick to embrace change and suggested that the most cost effective and preferable route/criteria for selecting architectural service providers/consultants is by looking at their experience and reputation, i.e. the traditional approach. Nonetheless, some believed that it would be healthy for the public sector to adopt "design competition" approach, especially on large projects and a combination of "RFP" and "design competition" for the private sector.

Bullets nine and ten of the study findings above could as well be linked to Porter's five forces competition model in section 2.2 herein, specifically the threat of new entrants and the threat of substitutes. The argument is shared with Porter (1980) that there is always a threat of new entrants in any business industry as new entrants could change major determinants of market environment. It is also argued in the same literature review that there is always a threat from alternative substitutes especially if the products come at lower prices of better performance parameters for the same purpose. This may explain the latent pressure for reaction to adjustment seen in the study findings above.

- From the study and the literature review, bidding (RFP) or any upfront service procurement approach that is based on pre-established criteria aimed at selecting from many options, gives ample time for the chosen consultant, thus leading to design completeness and minimising scope change. Other procurement routes on the other hand may affect the completeness of design, leading to enormous changes during the implementation phase.

5.3 Recommendations

5.3.1 Recommendations

Based on the study findings shown in section 5.1 together with the comparison with the literature review in section 5.2, the following were recommended:

- Reforming the existing predominant approach of recruiting consultants in the private sector construction industry is vital and it would benefit both, the procuring entity and the ASP/C as well as new entrants who might have potential ideas for the evolution of the industry, hence highly recommended.
- Standard recruitment/guidelines for ASP/C have to some extent provided a level platform and opportunity for all parties and it is recommended that its wide spread use need to be advocated further.
- It is obvious from the study findings that allowing any sort of bidding process/competition would help clients select the best out of the many contestants, hence highly recommended. This could also force consultants to put more efforts in coming up with better ideas so as to market themselves, hence improving quality.
- Competition is a healthy way of bringing high level of quality (Brusick et al (2004)). It would be difficult also for clients to know whether they have the right consultants on board without an alternative option to compare with, hence where applicable competition is highly recommended.
- It should be noted however, as seen from the related literature reviews that any form of service procurement whether bidding (RFP) or design competition has a cost and the recommendation here is that it should always be budgeted upfront.
- From the relevant literature reviews, it has been noticed that for small and medium projects, bidding in form of RFP is highly recommendable and cost effective in getting the right consultants on board while for bigger projects, design competition would serve better.
- From the study findings and the related literature reviews, it is recommended that other routes of service procurement be kept at minimal level to those conditions that are absolutely inevitable or unavoidable situations given the fact that it affects project's performance with respect to scope as well as cost parameters.

5.3.2 Proposition for further study

- It is suggested that the study be expanded to include other consultants, especially the structural and electrical engineers due to the fact that their works impact on the budget

as well. On the other hand, Quantity Surveyors and Project Managers' work is primarily to draw and control the budget as well as to ensure projects' delivery within their parameters respectively.

- This study was only limited to Johannesburg metropolitan area. It is recommended that the study be expanded to accommodate other geographical areas nationwide.
- The scope of this study was limited to consultants' perspective, particularly architectural service providers/consultants. A separate study should be conducted to find out the clients/property developers and investors' perspective. The study would help explore whether they are comfortable with the way it is currently or they are willing to incur a cost for a comprehensive service procurement procedure, so as to choose the right consultants prevailing from different options on the table for them.

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END

APPENDIX
QUESTIONNAIRES

Title of the Project: "AN INVESTIGATION ON THE LEVEL OF COMPETITION IN PROCUREMENT OF ARCHITECTURAL CONSULTANCY SERVICES AND ITS RELATIONSHIP TO PROJECT PERFORMNCE AND INNOVATION IN GAUTENG".

Section - 1
Introduction

This section aims to know the background of the respondent and it entails general information regarding the respondent: We shall highly appreciate your participation by sparing your valuable time in rendering information as part of this research. The research is about the procurement of consultancy services (*Architectural services in particular – ASP/C*). It is purely academic and the data collected will be for academic purposes only.

Please circle, fill-in and/or tick the answer that in your opinion is deemed appropriate:

1) -Area of work specialisation:

[A] - Commercial [B] - Leisure [C] - Interior design

[D] - Landscape design [E] - Residential Properties

[F] - Other (specify)……

2) -Respondent's level of responsibility/management level:

.....

3) -How may years of general experience does your firm poses in the construction industry?

[A] - Under 5 years [B] - 5 to 10 years [C] - 10 to 15 years

[D] - 15 to 20 years [E] - Over 20 years

4) -In terms of capacity what project cost limit can your firm comfortably handle?

[A] - Up to 5 million rand [B] - 5 to 20 million rand

[C] - 20 to 50 million rand [D] - 50 to 200 million rand

[E] - Over 200 million rand

5) -What is the general composition of your clients?

[A] - Government [B] - Local Government

[C] - Private investors / developers

[D] - Other (specify): ……..

Section - 2
Service Procurement Process:

This section seeks to understand the procurement process in the hiring/recruiting Architectural service providers / consultants. NB: Please note that: *"Competition"* here means an occasion on which a winner is selected among two or more contestants through a formal-evaluation of sources that uses pre-established rules/criteria (RFP*) that help provide a level platform.

Please circle, fill-in and/or tick the answer that in your opinion is deemed appropriate:

1) -Which of the following procurement systems do you think is predominant in selecting/ recruiting architectural consultants in SA particularly in Johannesburg?

[A] - Through Client relationship

[B] - Through Networking

[C] - Through Bidding (RFP)

[D] - Design Competitions

[F] - Other (specify)……

2) -In your opinion give an indication of how often the following indicators for competition are manifested in the industry during the selection/recruitment of architectural service providers / consultants by rating in an ordinal scale of 1 to 5, 1 being-always; 2 being-sometimes; 3 being-rarely; 4 being-non-existent?

2.1. - Formal invitation: …… ☐

2.2. - Pre-determined criteria: …… ☐

2.3. - Formal valuation of sources: …… ☐

3) -Please indicate in your opinion if there is enough competition by rating the level in an ordinal scale of 1 to 5, 1 being the lowest i.e.- lack of competition and 5 being the highest i.e.- stiff competition:

3.1. - Level of competition: …… ☐

4) -How has your firm in particular been securing its jobs/ assignment?

[A] - Through Client relationship

[B] - Through Networking

[C] - Through Bidding (RFP)

[D] - Design Competitions

[E] - Only […] and […] above

[F] - Other (specify)……..

Section - 3

Performance and Service Procurement:

This section seeks to find out how consultants have performed in their service delivery and the performance of the project within the project parameters particularly the cost parameter. It is aimed at establishing the link between service procurement method used and performance. "*Performance*" means delivery of a project within the project parameters of cost, quality, time and client's needs.

Please circle, fill-in and/or tick the answer that in your opinion is deemed appropriate:

1) - In your opinion, do you think there is a link between consultancy service procurement and project delivery particularly the project's final construction cost parameter?

Yes ☐ **No** ☐

Other (specify).....

2) -In your opinion, do you think the method used in the procurement of Architectural service providers/consultants affects performance with regards to project's scope change?

Yes ☐ **No** ☐

Other (specify).....

3) -With reference to question 1) above, if yes, please rate service procurement in affecting project's performance with respect to final project cost, in an ordinal scale of 1 to 4. (*1 being - insignificant or non existent; 2 being – severe; 3 being - very severe and 4 being - extremely severe*):

3.1. - The effects of method of service procurement on project's final cost are: …….☐

4) -With reference to question 2) above, if yes, please rate service procurement in affecting project's performance with respect to project's consequent scope change, in an ordinal scale of 1 to 4. (*1 being - insignificant or non existent; 2 being – severe; 3 being - very severe and 4 being - extremely severe*):

4.1. - The impact of method of service procurement on project's consequent scope change or design alterations is: ……..... ☐

Section - 4
Innovation in Service Procurement:

This section seeks to ascertain the impact of service procurement method on innovation within the social-economic context of SA.

Please circle, fill-in and/or tick the answer that in your opinion is deemed appropriate:

1) -In your opinion, should Architectural services providers / consultants be subjected to some degree of competition or selection criteria?

Yes ☐ **No** ☐

Other (specify).....

2) -In your opinion, do you think by subjecting Architectural service providers / consultants to some degree of competition or selection criteria would enhance innovation among themselves?

Yes ☐ **No** ☐

Other (specify).....

3) -In your opinion, do you think by subjecting Architectural service providers / consultants to some degree of competition or selection criteria would allow new ideas to evolve by facilitating new entrants?

Yes ☐ **No** ☐

Other (specify).....

4) -In your opinion, what is the most cost effective and preferable criteria for selecting architectural service providers?

……

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Section - 5

General: Improvements in Service Procurement:

This section seeks to ascertain the bottlenecks and areas of improvements in the current environment of service procurement in SA.

Please fill-in the answer that in your opinion is deemed appropriate:

1) -In your opinion, what are the bottlenecks of current situation in SA's private sector service procurement?

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2) -Please suggest how service procurement in general can be improved to enhance innovation and performance in SA's private construction industry?

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3) -Which method would you recommend for architectural service procurement in particular, taking into account the socio-economic context of SA?

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END