Research Project #1
Commissioned by the NZIQS Research Committee

Quantity Surveyors’ Services in the Project Delivery Process

Stakeholder Perceptions of Value, Strengths and Areas for Improvement

*Presenter*: David Doherr  
Director, Barnes Beagle Doherr (BBD)

20th PAQS Congress, Christchurch, 20-24 May 2016

*Sponsor*  
*Co-sponsor*  
*Researcher*
National Committee of the NZIQS

Committee’s key goals:
- Further the object of the NZIQS through sponsoring or promoting QS-related research that adds value to the Institute and its members’ business.
- Support the Institute’s Strategic Goal of Contributing to those research activities that add value to the New Zealand construction industry

Committee inaugural members:
- Sam Lomax, Savory Construction (Chair)
- David Doherr, Barnes Beagley Doherr (BBD).
- Matthew Ensoll, Quantum Meruit
- Dr Jasper Mbachu, Massey University
- A/Prof John Boon, Unitec (retired)
- Nicole Whitley, BECA (resigned).
November – December 2014: Committee requested Institute members’ feedback on research topics of interest to their practice/ business.

December 2014: Over 100 topics were suggested; grouped into 20 themes.

March 2015: Call for Expressions of Interest from the research community for research in 4 of the most popular topics; proposals received comprised:

- Stakeholder perceptions of the value of quantity surveyor’s services in the delivery process (Massey University);
- Assessment and costing of risks on construction projects;
- Modifications to Standard Forms of Contract (University of Auckland); and
- Costing innovative construction techniques (Unitec; University of Auckland).

July 2015: Research Committee received approval from Council to go ahead with the following proposal based on most perceived value of the research output in informing the NZIQS members, profession and the industry in which the profession operates: “Stakeholder perceptions of the value of quantity surveyor’s services in the delivery process”.

August 2015: Inaugural research commenced, to be completed by April 2016.
Research Background: Key role players

NZIQS
Research main sponsor
(Rep: Council)

Research Committee

Barnes Beagley Doherr
Research co-sponsor
(Rep: David Doherr)

Massey University
Research Contractor
(Rep: Dr Jasper Mbachu)

Principal to the Research Contract
(Rep: Sam Lomax)
“Quantity Surveyors’ Services in the Project Delivery Process: Stakeholder Perceptions of Value, Strengths and Areas for Improvement”

**Research Objectives**

1) Levels of importance stakeholders attach to the QSs’ services at the various stages of the project delivery process

2) How stakeholders perceive the QSs’ performance of those services

3) Key strengths and weaknesses of the QSs and areas for improvement in their services based on the outcome of Importance-Performance matrix analysis

4) Perceived added value of the Consultant and Contractor QSs’ services in the project delivery process
The research process included the following milestones. It was established early on that there was a need to conducted the research in two parts focusing on Consultant QSS’ and Contractor QSS’s.

- Desktop survey of literature on QS services, strengths, weaknesses and areas for improvement – 17 August 2015
- Pilot Interviews with key industry members
- Analysis of qualitative findings from pilot interviews
- Design of a pre-testing questionnaire
- Industry feedback on pre-test questionnaire
- Questionnaire survey to industry members
- Analysis of questionnaire survey results
- Draft research report
- Focus group workshop to review draft report
- Final research report and recommendations – 28 April 2016
## RESPONDENTS’ PRIMARY ROLE IN THE INDUSTRY

<table>
<thead>
<tr>
<th>Respondents' primary role in the industry</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Consultant quantity surveyor/ cost advisor</td>
<td>55</td>
<td>54%</td>
</tr>
<tr>
<td>2 Main contractor</td>
<td>9</td>
<td>9%</td>
</tr>
<tr>
<td>3 Consultant project manager/ construction manager</td>
<td>7</td>
<td>7%</td>
</tr>
<tr>
<td>4 Architect/ draughtsman</td>
<td>6</td>
<td>6%</td>
</tr>
<tr>
<td>5 Others</td>
<td>5</td>
<td>5%</td>
</tr>
<tr>
<td>6 Contractor project manager/ site manager</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td>7 Contractor quantity surveyor/ estimator/ cost manager/commercial manager</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>8 Property manager/facilities manager</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>9 Engineering designer/ consultant</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>10 Subcontractor/ Specialist trade contractor</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>11 Property developer</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>101</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
## Respondents’ Primary Professional Organisations

<table>
<thead>
<tr>
<th>Respondents' primary professional/ trade organisations</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 NZ Institute of Quantity Surveyors (NZIQS)</td>
<td>43</td>
<td>43%</td>
</tr>
<tr>
<td>2 Royal Institution of Chartered Surveyors (RICS)</td>
<td>15</td>
<td>15%</td>
</tr>
<tr>
<td>3 NZ Institute of Building (NZIOB)</td>
<td>11</td>
<td>11%</td>
</tr>
<tr>
<td>4 Registered Master Builders Federation (RMBF)/ Certified Builders Association of NZ (CBANZ)</td>
<td>9</td>
<td>9%</td>
</tr>
<tr>
<td>5 NZ Institute of Architects (NZIA)/ Architectural Designers NZ (ADNZ)</td>
<td>6</td>
<td>6%</td>
</tr>
<tr>
<td>6 Property Institute of NZ (PINZ)/ Property Council of NZ</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td>7 Institution of Professional Engineers NZ (IPENZ)/ Association of Consulting Engineers of NZ (ACENZ)</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>8 Specialist Trades Contractors Federation (STCF)</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>9 Construction Clients Group (CCG)</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>10 Project Management Institute of NZ (PMINZ)</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>11 Prefab Manufacturers Association of NZ (PrefabNZ)</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>12 Building Officials Institute of NZ (BOINZ)</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>13 Other (FMA)</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>101</td>
<td>100%</td>
</tr>
</tbody>
</table>
### Respondents’ Status in the Organisation

<table>
<thead>
<tr>
<th>Respondents' Status in the Organisations</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Senior management</td>
<td>52</td>
<td>51%</td>
</tr>
<tr>
<td>2 Executive</td>
<td>35</td>
<td>35%</td>
</tr>
<tr>
<td>3 Intermediate</td>
<td>14</td>
<td>14%</td>
</tr>
<tr>
<td>4 Trainee/junior</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>5 Other</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>101</td>
<td>100%</td>
</tr>
</tbody>
</table>
# Detailed Findings – Consultant QS

## Respondents’ Years of Construction Experience

<table>
<thead>
<tr>
<th>Respondents' years of construction experience</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Over 30 years</td>
<td>34</td>
<td>34%</td>
</tr>
<tr>
<td>2 21-30 years</td>
<td>30</td>
<td>30%</td>
</tr>
<tr>
<td>3 11-20 years</td>
<td>19</td>
<td>19%</td>
</tr>
<tr>
<td>4 6-10 years</td>
<td>12</td>
<td>12%</td>
</tr>
<tr>
<td>5 3-5 years</td>
<td>6</td>
<td>6%</td>
</tr>
<tr>
<td>6 Less than 3 years</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
<td>100%</td>
</tr>
</tbody>
</table>
### Respondents’ Regions of Operation

<table>
<thead>
<tr>
<th>Respondents' regions of operation</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auckland</td>
<td>42</td>
<td>42%</td>
</tr>
<tr>
<td>Canterbury</td>
<td>17</td>
<td>17%</td>
</tr>
<tr>
<td>Wellington</td>
<td>12</td>
<td>12%</td>
</tr>
<tr>
<td>Manawatu-Wanganui</td>
<td>8</td>
<td>8%</td>
</tr>
<tr>
<td>Hawke's Bay</td>
<td>6</td>
<td>6%</td>
</tr>
<tr>
<td>Otago</td>
<td>6</td>
<td>6%</td>
</tr>
<tr>
<td>Waikato</td>
<td>6</td>
<td>6%</td>
</tr>
<tr>
<td>Bay of Plenty</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>Nelson</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>Northland</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Taranaki</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Gisborne</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Marlborough</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Southland</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Tasman</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>West Coast</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>101</td>
<td>100%</td>
</tr>
</tbody>
</table>
Detailed Findings – Consultant QS

BROAD CATEGORIES OF CONSULTANT QSS’ SERVICES

Express contractual services and obligations of a Consultant QS

1) Pre-design
2) Concept design
3) Preliminary design
4) Developed design
5) Detailed design
6) Construction
7) Post-construction
8) Other services
QS obligations (sC2)

Express and implied contractual services and obligations of a Consultant QS

1) Concept, preliminary and developed design
2) Detailed design and tendering
3) Construction
4) Post construction
5) Other/ specialist services
6) Ethical and professional obligations

[Scope of Consultant QS services [Source: Section E. Conditions of Engagement, (NZIQS, 2013)]

[Feedback from Consultant QS survey]
1) CsQS services at the construction and close-out stage
2) CsQS services at the detailed design and tendering stage
3) CsQS services at the concept, preliminary and developed design stages
4) Ethical and professional role of the CsQS
5) CsQS specialist services

**Importance – Performance Mapping**

- **Importance of service (combined ratings)**
- **Importance of service (QSs' ratings)**
- **Importance of service (Non-QSs' ratings)**
- **Consultant QSs' performance (QSs' ratings)**
- **Consultant QSs' performance (Non-QSs' ratings)**
- **Consultant QSs' performance (combined ratings)**

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1) Very high: 4.50, 4.47, 4.67, 4.87
2) High: 4.40, 4.45, 4.12, 4.18
3) Average: 3.62, 3.62, 3.41, 3.49
4) Low: 3.01, 3.23, 3.34, 3.42
5) Very low: 3.21, 3.21, 3.16, 3.38
**Detailed Findings – Consultant QS**

**IMPORTANCE – PERFORMANCE 3X3 MATRIX**

**CRITICAL WEAKNESS AREAS**
[High to Very High value; Low to Very Low performance]:
[None]

**POTENTIAL STRENGTH (PS) AREAS**
[High to Very High value; Average performance]:
- PS1: Concept, prelim & developed design stage services

**KEY STRENGTH (KS) AREAS**
[High to Very High value; High to Very High performance]:
- KS1: Construction & close-out
- KS2: Detailed design & tendering
- KS3: Ethical & professional role

**MIDDLE POSITION (MP) AREAS**
[Average importance and performance]:
- MP1: Specialist services.

**RESOURCE SUB-OPTIMISATION AREAS**
[Low to Very Low value; Low to Very Low performance]:
[None]
Detailed Findings – Consultant QS

Consultant QSs’ addition to clients’ value-for-money

Range of client's added value-for-money achievable by full service engagement of Consultant QS

QSs' responses  Non-QSs' responses  Combined responses

< 20% (Very low)  7.1%  3.1%  0.0%
20 - 39% (Low)  17%  4%  4%
40 - 59% (Average)  9.3%  16%  34%
60 - 79% (High)  57%  17%  64%
> 79% (Very high)  64%  16%  10%
Key findings: Consultant QS survey – Things we do well

- Consultant QSs’ performance was all round Very-High for the Very-High rated functions of;
  - Tender and contract documentation, tender evaluation and recommendations
  - Ethical & professional role
  - Financial administration of changes and record keeping / monitoring of changes
  - Progress payment valuations
  - Construction close out / preparation and negotiate final accounts
  - Financial Statements, bank drawdowns, overall cost and budget monitoring, reporting and control
  - At all times exercise duty of care
  - Advice on procurement and tendering strategies
  - Valuation for insurance purposes
  - Cost analysis for retrofitting / upgrade / maintenance project work
Key findings: Consultant QS survey – Things to improve

- Consultant QSs’ receive Low or Average performance ratings from non-QS Stakeholders for these High or Very-High importance functions;
  - Value Management/value engineering comparative cost studies
  - Final Project Budget Estimate
  - Schedule of quantities
  - Cashflow forecasts, cost to complete and adjusting sums
  - Delay analysis, EoT and Loss & expense claim assessment
  - Checking cost plus adjustment of reimbursable sums and GMP contracts
  - Declare any conflict of interests
  - Act independently and with professional skills & judgement
  - Dispute resolution service
  - Risk management
  - Asset capitalisation and property taxation
  - Life cycle costings
  - Financial & contractual due diligence
Key findings: Contractor QS survey – Things we do well

- Contractor QSs’ performance was all round Very-High for the Very-High rated functions of;
  - Construction & close out
  - Pre-contract duties
  - Seek out, bid (or negotiate) and secure profitable construction contracts
  - Gather quotes from suppliers and analyse
  - Subcontract tender management
  - Head contract tender management
  - Analyse and price contracts
  - Prepare budget and cashflows
  - Prepare and negotiate final accounts for head and sub-contracts
  - Ensure accurate record keeping
  - Carry out quantity take-offs and purchase orders
  - Archive project cost and contractual records
  - Measure and value patent and latent defects and costs to repair
Contractor QSs’ receive Low or Average performance ratings from non-QS Stakeholders for these High or Very-High importance functions:

- Commercial management duties
- Ethical & professional obligations
- Recommend procurement and tendering strategies
- Value variation orders and advise impact on cost and time
- Carry out full contractual and financial administration of the project
- Carry out cost studies of completed projects as basis for estimating and pricing future projects
It appears generally QSs’ have a very high opinion of our own performance and non-QSs’ have a lower opinion of that same performance. In many detailed areas QS views and non-QS views are in complete alignment. But some specific areas the QS view and non-QS view are markedly divergent. We will benefit from engaging in seeking feedback from non-QS stakeholders on our performance.

Consultant QSs’ were perceived to contribute an average value addition in a project in the range of 40-59%. Therefore not engaging the full services of a Consultant QS in a project team, a client may lose on average 50% of the potential value for money that could be achieved.

Contractor QSs’ were perceived to contribute a high value addition in a project in the range of 60-79% or 70% on average. Therefore not having a Contractor QS in a project team, a client may lose on average 70% of the potential value for money that could be achieved.
Further strategies for service improvement

Areas for improvement in QS services

Consolidate on key strengths
- Optimise and leverage key strengths to exploring priority opportunities in the business

Manage critical weaknesses
- Minimise exposure to critical threats
- Convert to strengths
## Revenue strength matrix:

**Decision support framework for strategic improvement in the consultant QSS’ critical weakness, potential strength and key strength service areas**

<table>
<thead>
<tr>
<th>Service revenue as % of annual firm’s turnover</th>
<th>Critical weakness</th>
<th>Potential strength</th>
<th>Key strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (≥ 66%)</td>
<td>1) Innovate service processes to ramp up performance</td>
<td>2) Re-engineer service processes to enhance performance</td>
<td>3) Sustain performance level; seek continuous process improvement</td>
</tr>
<tr>
<td>Average (33 - 66%)</td>
<td>4) Watch future developments in these services</td>
<td>5) Re-engineer service processes; widen scope of services</td>
<td>6) Widen scope of services to improve market share</td>
</tr>
<tr>
<td>Low (&lt; 33%)</td>
<td>7) Divest: Refocus resources on key strength services</td>
<td>7) [Services in this zone should be treated as those in zone 7)] or 8)</td>
<td>8) Widen scope of services to improve market share</td>
</tr>
</tbody>
</table>

- **1) Innovate service processes to ramp up performance**
- **2) Re-engineer service processes to enhance performance**
- **3) Sustain performance level; seek continuous process improvement**
- **4) Watch future developments in these services**
- **5) Re-engineer service processes; widen scope of services**
- **6) Widen scope of services to improve market share**
- **7) Divest: Refocus resources on key strength services**
- **8) Widen scope of services to improve market share**
Operationalising the Revenue-Strength Matrix as a Tool for Making Strategic Improvement Decisions in the Key Strength, Potential Strength and Critical Weakness Areas of Consultant QSs’ Services:

**Generic Five-Step Iteration Process at an Individual Firm Level**

1) **Survey clients’ perceptions of the levels of importance they attach to services offered to them and your firm’s performance of those services**

2) **Analyse average clients’ ratings of importance and performance of each service**

3) **Map the services on the Importance-Performance matrix chart to know which of the 5 strategic zones they fall into (e.g. see Figure 4)**

4) **Analyze each service’s revenue as % of annual firm’s turnover**

5) **Implement appropriate response strategies for high revenue and low or average revenue generating services [see Figure 17]**

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**Figure 4**

**Figure 17**

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**CRITICAL WEAKNESS**
- High to Very High value; Low to Very Low performance

**POTENTIAL STRENGTH**
- High to Very High value; Average performance

**KEY STRENGTH AREAS**
- High to Very High value; High to Very High performance

**Resource Sub-Optimisation:**
- Low or Very Low value; High or Very High performance

**Performance**
- Low/Low (L/L)
- Average (Avg)
- High/Very High (H/VH)

**Key Strength Areas**
- High to Very High value; High to Very High performance

**Potential Strength**
- High to Very High value; Average performance

**Critical Weakness**
- High to Very High value; Low to Very Low performance

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**End of year surveys**

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**Repeat for next year**

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**Figure 4**

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**Figure 17**

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Revenue-Strength Matrix Application to Consultant QSS’ Services:

Strategic Improvements in the Consultant QSS’ Key Strength and Potential Strength Areas

- **Service revenue as % of annual firm’s turnover**
  - If high: \( \geq 66\% \)
    - Sustain performance level; seek continuous process improvement:
  - If low or average: \(< 66\%\)
    - Widen scope of services to improve market share

- **Key strengths**
  - Services at the construction & close-out phase
  - Services at the concept, prelim & developed design phases

- **Potential strengths**
  - Services at the detailed design & tendering phases

- **Critical weakness**
  - [None]

- **Re-engineer service processes to enhance performance**
  - [N/A]

- **Divest and refocus resources on key strength services**
  - [N/A]
Thank You!