Critical success factors, opportunities and threats of the cost management profession: the case of Australasian quantity surveying firms

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Abstract: The quantity surveying profession faces a number of exceptional challenges that threaten its existence, growth and success. The aim of this paper is to identify the critical success factors (CSFs) for growth and survival as well as the threats and opportunities in the external landscape. Knowledge of these factors would enable the profession to achieve sustained growth and competitiveness. Using the exploratory survey method, in-depth interviews were conducted with key senior leaders from industry and professional and academic institutes throughout New Zealand and Australia. Results showed that the CSFs of the profession are underpinned by process, practice management, service performance, market positioning, people, firm profile and professional attributes. Four themes underlie the threats and opportunities of the profession, namely: market/competition, capability/capacity, recognition/relevance, and information/communication/technology. Identified opportunities stem mainly from involvement in newly identified or emerging markets, and expansion in or penetration of existing markets.

Keywords: cost management; critical success factors; CSFs; organisational analysis; quantity surveying; SWOT analysis.

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1 Introduction

Professions must evolve in response to the ever-increasing changes in the global business environment. Quantity surveyors (QSs) are not invulnerable to these changes and the profession faces a multiplicity of challenges that threaten its existence. It requires urgent and far-reaching strategic transformation if it is to survive and remain relevant (Frei and Mbachu, 2009).

However, without scanning and discerning future directions and actively preparing for any impending changes, QSs stand at a risk of receiving changes as threats, rather than opportunities. Investigation into the key strengths and weaknesses of the profession and the critical opportunities and threats it faces is a fundamental step in the strategic change management process (Porth, 2003; Mbachu and Nkado, 2006). By prompting practitioners to reflect on their current practices, future directions and desired future states, feedback could be obtained, not only on the perceived opportunities and threats, but also on the profession's ability to maximise the opportunities and minimise the imminent threats, as well as gain understanding of the most urgent areas requiring reengineering and improvement.

To assist QSs with implementing the changes required, this overall research project's intended contribution is the development of a rigorous quantitative analytical method for diagnosing the strategic health of a quantity surveying services firm based on SWOT analysis results. The outcomes of the proposed developed method would not only enable the diagnosis and quantitative modelling of an organisation's relative level of strategic health but also identification of the key areas needing treatment in order to increase strategic health to the required level. This paper presents the framework of key variables that would serve as the basis for the development of the analytical model.

Whilst the empirically determined research outcomes will be based on the data for the Australasian quantity surveying profession, the main constructs will be of benefit to construction cost managers in a range of other settings. Furthermore, the developed

theoretical model and methodology for assessing organisational strategic health and critical success factors (CSFs) would be applicable to the management of organisations beyond the QS context

2 Background

Change has been on the agenda for the construction industry globally following Egan's (1998) seminal *rethinking construction* report on the challenges facing the UK construction industry. The report suggested that the construction industry was underachieving and put forward a challenge for the industry to undergo fundamental change in regards to its culture and work methods. According to the Royal Commission into the Building and Construction Industry known as the Cole Inquiry Report (Cole, 2003), the situation in Australasia, specifically Australia, is equally critical. Cole reported that practice and conduct in the industry on a range of issues, including commercial and cost management aspects were deeply inadequate and that change was required.

Positive reengineering of the industry remains a key priority to this day. A recent follow-up review (Wolstenholme, 2009) of progress in the UK since the circulation of *Rethinking Construction* found that whilst some progress has been made, overall the industry has fallen far short of substantially achieving any of the stated agendas for change. For QSs, the need to remain at the forefront of this change has remained a topical and urgent issue (Smith, 2004; AndrewsGroup, 2006; Harun and Abdullah, 2006; Davis et al., 2007). In fact, Ofori and Toor (2009) even noted that the changes in the business environment were so adverse that they had "led many observers to predict, and many within the profession to fear, that quantity surveying might disappear as a formal profession" (p.38).

QSs in Australia and New Zealand are not isolated from the changes occurring in the global business landscape. Due to the recent changes to the profession around the world – coupled with low industry awareness of the profession's services and potential to add value – the Australian Institute of Quantity Surveyors (AIQS) commissioned a major study to inform its future strategic direction (AndrewsGroup, 2006). The study reported that QSs have found themselves in a disadvantaged 'low value' (p.199) position within the present construction supply chain model. The report recognised the pressing need for the profession to actively engage its clients and move 'up the food chain' (p.200). This lack of profile and recognition of the quantity surveying (QS) profession is a key concern throughout Australasia (Smith, 2004; Frei and Mbachu, 2009) the improvement of which is recognised as a key objective issue by both the New Zealand Institute of Quantity Surveyors (NZIQS) and the AIQS alike. A primary goal of the AIQS is to raise the profile of the profession (AIQS, 2005); this goal is also echoed in one of the key objectives of the NZIQS (n.d.).

3 Research aim and objectives

The primary aim of the overall research project is to develop an analytical framework for diagnosing the strategic health of an organisation from the results of its SWOT analysis to allow identification of the areas requiring improvement to enable the organisation to fulfil its strategic goal of delivering value to stakeholders and achieving sustained growth

and viability. The secondary aim is to apply the developed model to the case of the QS profession in the Australasian region.

The following key objectives underpin this stage of the research project as reported on in this article:

1 to establish the CSFs for the quantity surveying profession

2 to identify the key threats likely to cause significant negative impact on quantity surveying firms

3 to identify the key opportunities that could be positively leveraged by quantity surveying firms.

4 The concept of organisational strategic health

4.1 Literature review

The concept of organisational strategic health could be considered analogous to the health of an individual (NHS, 2009). The identified parallels between human and organisational health (OH) include the following: health levels influence performance; health levels have observable symptoms; health can be diagnosed through assessment of symptoms and comparison to established norms; ill-health symptoms are not always presented; health levels change over time; ill-health can be remedied by suitable interventions, and; timely correction of ill-health can halt the growth of a larger problem (Humphreys et al., 2004). A key concept illustrated by this 'human health' analogy is that organisations are affected by, and therefore must respond to changes in their operating environment (NHS, 2009).

An NHS (2009) review of the literature that has developed around the concept of OH characterises a healthy organisation as one that can withstand the impacts of its operating environment and anticipate and adapt to change. The review found that two key conceptual paradigms of OH have developed. The first, emerging from the field of workplace health, espouses an 'atomistic' perspective of OH where the health of an organisation is reduced to the health of the individuals in it. This view is supported by Quick et al. (2007) who regard a healthy organisation as one that emphasises, facilitates and supports the health of its members. They posit that healthy, vital leaders are required in order for organisations themselves to maintain their productivity and competitive position. In a similar vein, Lovey et al. (2003) posit that without health a system reduces to dysfunction which prevents the achievement of organisational objectives. The authors suggest that human health, which can be maintained through a joyful working experience, is a prerequisite for the health of the organisation. Alman (2010) also concurs, stating that OH reflects two components: the performance of the organisation as a system, and the satisfaction and well-being of employees.

The second conceptual paradigm subscribes to a more 'systemic' perspective, where the health of the organisation is only observable in the emergent whole organisation and cannot be reduced to the health of its constituent parts (NHS, 2009). As stated by Hill (2003, p.1) "the health of each subsystem affects the organisation's overall effectiveness". This view of strategic OH is the conceptual paradigm adopted for this study.

Unfortunately, many of the developed OH assessment tools employ only a simple checklist approach. Nadler (1970) considers OH as the degree to which the internal rules of an organisation have been manipulated by errant individuals not acting in line with its policies. More recent interpretations are less rigid. Male et al.'s (2003) OH check diagnostic specific to refurbishment projects prompts an organisation to identify areas where health may be lacking through reflection on statements relating to each stage of the process. Betts et al.'s (1999) strategic health check aimed at IT management for construction organisations employs a checklist approach exploring the key areas of company strategy, business strategy, the role of IT, and IT strategy. The identification of strategies for organisational improvement is left to practitioners through comparison with other organisations. Hill's (2003) OH diagnosis and prescription cycle developed to assess and improve the health of education organisations, like most of the aforementioned focuses primarily on organisations' internal workings. It is however a key requirement when assessing OH that the organisation's relative functioning is accounted for in relation to its environment "as organisations are not healthy or unhealthy in isolation" [NHS, (2009), p.6].

Perhaps the most developed model of OH stems from research involving over 115,000 individuals from 231 companies undertaken by strategic management consultants McKinsey (DeSmet et al., 2007). The authors were able to distil nine core management elements, which if mastered, significantly increase organisations' chances of higher than average financial earnings. The nine outcomes were: leadership, direction, environment and values, accountability, coordination and control, capabilities, motivation, external orientation, and innovation.

Perhaps it is because health is a condition internal to an organism that even the systemic perspective OH models have focussed on the internal environment without much consideration for external factors. In summary, the existing literature does not offer any developed frameworks determining OH based on a rigorous quantitative assessment of the internal and external factors affecting an organisation's performance.

4.2 Theoretical framework

The theoretical framework drawn upon for development in this study is Mintzberg's (2000) 'design school' or SWOT model of strategy formation process. This is based on the premise that the most essential component of effective strategy formation is ensuring a congruence, or fit, between the external and organisational factors. In the Mintzberg's model, strategy is created at the intersection of an external appraisal of the threats and opportunities facing an organisation in its external environment, considered in terms of key factors for success and an internal appraisal of the strengths and weaknesses of the organisation, which define the organisation's distinctive competencies. Using the model, Mintzberg argues that the key to survival is to exploit outside opportunities with inside strengths, while threats are avoided and weaknesses shielded.

The targeted theoretical framework shares a similar viewpoint with Mintzberg's model in terms of the focus on SWOT (i.e., strengths, weaknesses, opportunities and threats) as the underpinnings of success and survival of an organisation. However, the point of departure is in the intended use of the outcome of the SWOT analysis. Whereas the Mintzberg's model uses the SWOT as the fundamental step in the strategy formation process, the outcome of SWOT serves as the building block in the targeted theoretical framework for the development of the strategic health index (SHI) which is the tool for

gauging the strategic health of the organisation with a view to identifying areas of weakness or improvement, if the organisation is to achieve its strategic goals.

4.3 Developed conceptual framework for diagnosing strategic health

The purpose of this exploratory stage of the research project study is to develop the key variables forming the building blocks of Frei and Mbachu's (2010b; see also Mbachu and Frei, 2011) piloted SHI diagnostic tool. The following paragraphs summarise the key theoretical concepts of the analytical method employed by the SHI tool. The pilot model was developed based on the feedback generated from a convenience sample of construction cost managers. The purpose at that stage, as is often the case in pilot studies, was to demonstrate the practical application of the novel concept rather than the accuracy and validity of the detailed findings.

The analytical method observes a sequential process for determining strategic health. The full methodology is outlined in detail in Frei and Mbachu (2010b), however, the main thrusts are summarised here. The starting point is the identification of the CSFs of QS firms, and the threats to, and opportunities for, those firms. Having established the CSFs, these are first weighted in terms of their importance. Each CSF is also rated in terms of the firm's relative competence – thus segregating into and determining the extent of strength or weakness. Similarly the threats and opportunities are also weighted, both in terms of likelihood (or prevalence) and potential negative or positive impact.

This quantitative weighting of SWOT analyses is not entirely novel, Gillespie (2007) for example urges the ranking and weighting of SWOT variables in terms of their importance or relative impact as a key step. Some attempts to model this have been made. For example Inghenia's (2009) online quantitative SWOT model allows the simple rating of relative weight of positive and negative factors to calculate the organisations overall score. Anwar and Siddique (2000) add the consideration of long and short-term variations to their rating of the four SWOT quadrants which are weighted based on assessments of importance and the organisation's position relative to market leaders in regard to each factor. Shinno et al.'s (2006) quantitative SWOT analysis model determines the intensity or priority in terms of technological and financial performance by pair-wise comparison. The above models, particularly Anwar and Siddique's and Shinno et al.'s provide objective means for quantifying SWOT factors.

However, those models do not consider the quantitative impacts of leverage (coupling of strengths and opportunities) and vulnerability (coupling of weaknesses and threats) on the organisation's overall position. The consideration of strengths and weaknesses in relation to the external threats and opportunities is central to Mintzberg's (2000) 'design school' of strategy formulation as well as to the concept of OH (NHS, 2009).

The piloted SHI tool addressed this gap with the introduction of two key concepts into the framework: vulnerability and leveragability. In short, an organisation's SHI score is dependant to a large part on its ability to master key CSFs as strengths to leverage opportunities and reduce its weaknesses in areas where these could make the organisation vulnerable through exposure to threats.

The findings presented herein seek to bolster the reliability and validity of the original pilot model by qualitative re-examination of the base constructs – the threats, opportunities and CSFs – which form the key variables in the SHI model. Future phases of the research will enhance the accuracy of the model by widespread quantitative investigation into the importance of the uncovered constructs.

5 Method

5.1 Research method

The overall strategy assumed in this study employs a successive multi-stage approach consisting of exploration, description, and validation. The first, this exploratory stage, comprises two main phases. The first phase is concerned with the preliminaries which set the scene. This includes identification of the research problem, stating the research objectives and propositions, setting the research questions, and conducting the literature review. The second phase of this exploratory phase is the establishment of the constructs underpinning the enquiry, the outcomes of which are the subject of this article. The identification of the key constructs was achieved through the analysis of semi-structured qualitative interviews. The purpose of the qualitative interviews was to generate the operational themes and constructs, which informed the design of the research instrument and the eventual analytical model. The model parameters comprises the CSFs of the profession, and the key threats and opportunities facing the profession

Table 1 Respondent attributes

Respondent #:	*01*	*02*	*03*	*04*	*05*	*06*	*07*	*08*	*09*	*10*	*11*	*12*	*13*	*14*	*15*
Attribute															
Australia	*	*		*	*	*		*	*	*	*	*	*	*	*
New Zealand			*		*		*		*						
QS firm director/principal	*	*	*	*	*		*	*	*	*	*	*			
QS firm associate director						*									
Professional institute director														*	*
QS institute national president [past/present]				*							*	*			
QS institute chapter president [past/present]	*				*										
Professorship [past/present]												*	*		
>20 years relevant experience	*	*	*	*	*	*	*	*	*	*	*	*	*		
Local firm	*	*		*			*					*			
Nationwide firm									*						
Global firm			*		*	*		*		*	*				

The population of interest to the overall research study is the Australasian consultant quantity surveying community. As the purpose of the pilot study was to define the constructs which would be tested in the later research phases, it was decided that key persons in significant leadership roles would be the most appropriate subset of the population for participation in the study. The respondents were all key senior leaders

drawn from a range of QS firms, professional institutes, and academic institutions. Table 1 illustrates the demographic profile of the respondents.

The primary sampling technique employed was purposive (or judgemental) sampling (Mbachu and Nkado, 2007) supplemented by snowball sampling (Cooper and Schindler, 2006). In using this study, the researchers relied initially on their own extensive networks, knowledge of the industry, and judgement to identify the members of the desired subset. Initially, directors of the leading QS firms were invited to participate. Following further recommendations from these respondents, the subset was snowballed to include directors of small and medium sized firms, as well as directors of relevant professional institutes and notable academics. The snowballing technique enabled the researcher access to a consistently high profile of respondent, which might otherwise have remained unknown or inaccessible. It is reiterated that the purpose of this stage of the research was to ensure a broad canvassing of key factors rather than achieving representative and generalisable data. The approaches employed are suitable in instances where the researcher wishes to study a subset of a larger population, particularly when some members of the subset are easily identifiable, but enumerating the entire subset would not be feasible, and where care is taken not to overgeneralise the findings (Rubin and Babbie, 2008).

The interviews generally took place at the respondent's workplace at date and time convenient to the respondent. The interviews lasted an average of 60 minutes and were recorded for transcription and analysis at a later date. The semi-structured interviews, focussed on answering three core questions, were undertaken in a conversational manner. The core questions put to respondents were:

1 What are the internal CSFs required for the profession to remain relevant, competitive and successful in the long term?

2 What are the strengths and weaknesses of the profession?

3 What are the main external threats to the profession, and which of the profession's weaknesses make it vulnerable to these?

4 What are the main external opportunities for the profession and which strengths could be used to leverage these?

The conversational style allowed respondents to direct their response as they saw appropriate, increasing the opportunity for novel views to be shared and enrich the findings.

As the statistical means of estimating errors and representative sample sizes used in random sampling do not apply to non-probability sampling (Sapsford, 2007) the final sample size of 15 was determined by the number of interviews that were required to achieve relative theoretical saturation. Theoretical saturation, a concept originating from the grounded theory is defined as the "saturation of the properties of a theoretical category" [Charmaz, (2008), p.167].

5.2 Data analysis

Whilst the analysis of qualitative data is as much an art as it is a science, the adoption of tested methods can lend much scientific rigour and objectivity to what might otherwise threaten to descend into an overly subjective process (Rubin and Babbie, 2008). Content

analysis techniques were employed in the examination of the qualitative data obtained in the interviews. Coding was employed to develop concepts from the qualitative data generated from the open-ended questions and effectively reduced the variety of answers to a small number of categories that provided the constructs for testing in later stages of the study. This process proved advantageous for ordering and categorising data as well as providing a system for management and retrieval, and recommended as such by Phillips (1971) and Rubin and Babbie (2008).

6 Research results and discussions

This section presents the findings made in the qualitative inquiry and discusses these in light of the related findings in the extant literature.

6.1 Threats to quantity surveying firms

The full list of identified threats uncovered in the analysis of the interview data is presented in Table 2. These are categorised into four themes: market/competition, capability/capacity, recognition/relevance, and information/communication/technology. Many of these themes are supported by the findings of previous studies: the continued departure from traditional procurement methods and the associated fall in demand for QS services (Burnside and Westcott, 1999; Frei and Mbachu, 2009; Potts, 2004); the relative obscurity of the quantity surveying profession (Frei and Mbachu, 2009; Smith, 2004); the blurring of professional boundaries allowing erosion of existing market share by other professionals (Wilkinson, 1995; Cavill, 1999; Smith, 2004; Davis et al., 2007); shortages of suitably skilled professionals and quality graduates threatens the long term success of the profession (Cavill, 1999; Frei and Mbachu, 2009; Kelly, 2007); advances in information technology, such as computer aided drafting (CAD) and building information modelling (BIM) could threaten to reduce the role of QSs, though most authors are of the view that this should only be a concern should practitioners resist change (Boon, 2009; Best et al., 1996, 1991; Cartlidge, 2002; Cavill, 1999; Dixon, 1998; Smith, 2004); building market fluctuations including sub-sector variances [Frei, (2010), p.1; Frei and Mbachu, 2009], and; the demise of published scales of fees and the resultant levels of fee competition affecting the quality of services provided (Boon, 2001; Harun and Abdullah, 2006).

The identified threats to quantity surveying firms originate from a wide variety of sources including, economic trends, technology, and globalisation. A good deal could also be described as structural factors of the industry. Whilst all of the above negative impacts are outside of the control of the individual firm and therefore correctly considered threats (rather than weaknesses), some of the 'structural' threats could conceivably be influenced through collective action from the profession. Factors that could fall into this category include: the devaluing of QS services through excessive competition; the lack of suitably skilled and experienced practitioners; the undersupply of new entrants to the profession; shortfalls in the QS qualifications offered by tertiary education providers; inadequacies in the CPD programs delivered by professional institutes; the profession's relative 'lack of voice'; QS's relative isolation from key decision makers and clients; the perception that QS services are non-critical to project success; the lack of formal registration or chartered status; the lack of comprehensive

shared knowledge banks; published cost information made readily available to users outside of the profession, and; the apathy of individuals toward professional institutes. Whilst mitigating action toward any given threat ought to be taken by the individual firm in any case, the actual force of the above highlighted threats themselves could potentially be reduced through collective action.

Table 2 Threats to quantity surveying firms

1.1	*Market/competition*
1.1.1	Devaluing of QS services through excessive competition on fees
1.1.2	Incursions by other professions into QS related service areas
1.1.3	The cyclical nature of the construction market
1.1.4	Increased competition from multinational organisations entering the local (Australasian) market
1.1.5	Competition in the local market from lower cost economies
1.2	*Capability/capacity*
1.2.1	The lack of suitably skilled and experienced practitioners
1.2.2	The aging workforce and undersupply of new entrants to the profession
1.2.3	Shortfalls in the QS qualifications offered by tertiary education providers
1.2.4	Inadequacies in the continuing professional development (CPD) programs delivered by professional institutes
1.3	*Recognition/relevance*
1.3.1	The profession's relative 'lack of voice' due to the small number of practitioners in comparison to other professional groups
1.3.2	QS's relative isolation from key decision makers and clients due to the traditional structure of the construction procurement marketplace
1.3.3	The perception that QS services are non-critical to project success and the lack of awareness for the value-adding benefits
1.3.4	Lack of formal registration or chartered status
1.3.5	Alternative procurement techniques and self-sufficient clients with a reduced need for a QS
1.4	*Information/communication/ technology*
1.4.1	Technological advances which threaten to reduce the role of the QS
1.4.2	Lack of comprehensive shared knowledge banks accessible to QS practitioners
1.4.3	Published cost information made readily available to users outside of the profession
1.4.4	Apathy of individuals toward the collective benefits that could be achieved through active support of, and involvement in, professional institutes

6.2 Opportunities for quantity surveying firms

Table 3 lists the opportunities identified. Quite unlike those identified the threats, the themes are intricately interwoven, but focus more on market/competition and capability/

capacity. Many could be categorised as arising from involvement in the newly identified or emerging markets, or expansion or penetration of existing markets.

Table 3 Opportunities for quantity surveying firms

1.1	Recruitment of staff from off-shore
1.2	Asia-pacific market due to its proximity to Australasia
1.3	Key emerging off-shore markets in the post global financial crisis (GFC) economic landscape
1.4	Efficiency increases brought about by technological advances
1.5	The renewed emphasis on cost control post GFC
1.6	New roles for quantity surveyors in alternative procurement methods
1.7	Market for core quantity surveying services in building construction
1.8	Market for peripheral quantity surveying services in building construction
1.9	Market for built asset/facilities management services
1.10	Market for cost management in the mining and resources sector
1.11	Market for cost management of building engineering services
1.12	Market for cost management in the civil infrastructure sector
1.13	Market for environmental economic and sustainability services
1.14	Market for social economic and sustainability services
1.15	Market for logistics and event cost management
1.16	Market for strategic business management advisory services
1.17	Market for urban planning and policy advice
1.18	Market for foreign aid and disaster relief cost management
1.19	Market for process and manufacturing cost management

Many of the key opportunities discussed in literature were echoed in the feedback from respondents. The opportunities revealed in the literature include: demand for new services brought about by legislation such as the mandatory disclosure of office building energy efficiency rating in Australia (NFEE, 2009); globalisation and the resultant opportunities for internationalising of businesses [Dixon, 1998; Frei, (2010), p.1; Harun and Abdullah, 2006); increased involvement in alternative procurement techniques (Frei and Mbachu, 2009; Hardie et al., 2005; Kennedy and Akintoye, 1995; Potts, 2004); efficiency increases afforded by advances in information technology (Best et al., 1996, 1991; Cavill, 1999; Smith, 2004; Tse and Wong, 2004; Watkins and Adetola, 2006), and; growth in environmentally sustainable design (ESD) presenting options for diversification (Smith, 2004).

The opportunity afforded by government stimulus spending on building construction as discussed by Kennedy (2009) was not specifically raised as an opportunity. On the other hand however, it was noted that the cyclical nature of construction demand could be somewhat of threat. Respondents also noted that firms needed to be involved in both private and public sector work to mitigate the effects of this.

A finding that became particularly clear, and can be seen at a glance in Table 3, is that the bulk of the opportunities are thought to lie in adapting QS services to serve new or allied markets. The importance of these areas of opportunity is reinforced in the view

that borders scanning activities, and a willingness to change, are factors considered critical to success.

6.3 Internal CSFs

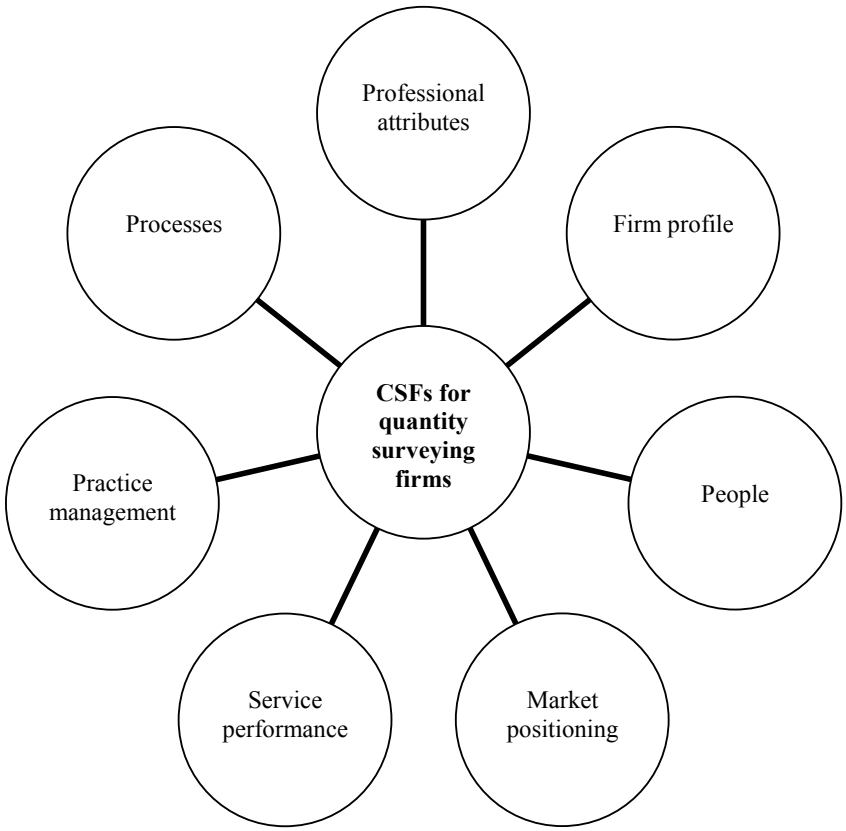
One of the earliest references to CSFs in the literature is by Daniel (1961) who suggested 'success factors' to address problem of management information inadequacies, where the data supplied to management was not adequate to enable the setting of objectives and strategies. Daniel posits that the information required by management comprises: information about the external operating environment including social, political and economic aspects; past and likely future performance of competing companies, and; internal information regarding a company's own strengths and weaknesses. Building on Daniel's formative work, Rockart (1979) adds that "Critical success factors thus are, for any business, the limited number of areas in which results, if they are satisfactory, will ensure the successful competitive performance for the organisation. They are the few key areas where 'things must go right' for the business to flourish. If the results on these areas are not adequate, the organisation's efforts for the period will be less than desired (p.85)". CSFs are therefore areas that should command constant and careful attention from management. "The current status of performance in each area should be continually measured, and that information should be made available" (p.85). Rockart also pointed out that some CSFs are industry-wide, whilst others are particular to a certain organisation, generated by variances in environmental, temporal, geographic, or strategic factors. Recently reiterated by Yang et al. (2009), Rockart's definition of CSFs has remained authoritative and relevant.

Some inspiration could be drawn from generic writings on CSFs for professional services firms, such as Temple's (2006) ten CSFs for professional services; essentially a checklist of areas an organisation should focus on such as credibility, market segmentation for focussed marketing, standing out from competitors, setting the right pricing structure and client attraction techniques; or Coulson-Thomas' (2006) urgings that building client relationships is critical to growing business. However it must be noted that CSFs are industry specific and that "every industry has CSF or performance areas where things must go correctly for a business to flourish [Connor and Davidson, (1997), p.100]". Løwendahl (2005) argues that professional services firms cannot assume CSFs from other sectors apply; to do so without testing the assumptions would assure failure. It follows therefore that a unique set of CSFs which are specific to QS firms should exist.

The literature however, does not reveal any direct discussions of CSFs for quantity surveying organisations. Several authors however, posit CSFs pertinent to a particular aspect of quantity surveying practice, such as public private partnership success (Li et al., 2005); partnering (Cartlidge, 2009); effective cost control (Chan et al., 2010); competitive tendering (Cartlidge, 2009); e-tendering (Lou and Alshawi, 2009); IT integration (Brewer and Gajendran, 2006); and stakeholder management (Yang et al., 2009). Unfortunately many authors that have focused on broader requirements of the profession have commented either on basic competencies (AIQS, 1998; Nkado, 2000) or else leapt straight to identifying suitable courses of strategic action. For example, Potts (2004) states the need for supply chain collaboration as the industry adopts a more collaborative approach to contracting. Several authors attest to the need for the profession to diversify its service offering within the building construction sector and beyond into related industries (Burnside and Westcott, 1999; Davis et al., 2007; Frei and Mbachu,

2009; Harun and Abdullah, 2006; Jagun, 2006; Potts, 2004; Smith, 2004; Watson et al., 2001). Dixon (1998) and Goodman and Schaps (2008) both state the need for practices to internationalise and reap the benefits of emerging markets. Other strategies centre on the benefits of IT advances (Best et al., 1996, 1991; Davis et al., 2007; Smith, 2004, 2009); offering one stop shop services (Abdullah and Haron, 2007; Frei and Mbachu, 2009; Smith, 2004;); implementing knowledge management systems (Brandon, 1990; Davis et al., 2007; Harun and Abdullah, 2006; Male, 1990; Nkado, 2000; Nkado and Meyer, 2001); reengineering organisational structure (Boon, 1996, 2001; Cavill, 1999; Smith, 2004, 2009); and CPD (Smith, 2004). Whilst insightful, none offer a succinct authoritative set of CSFs required for the overall success of the profession.

Figure 1 CSFs for quantity surveying firms



Nevertheless, analysis of the discourse indicates that any comprehensive set of CSFs relevant to QSs should include the following themes:

1 proficiency, and remaining abreast of advances in IT (Best et al., 1996, 1991; Davis et al., 2007; Smith, 2004, 2009)

2 knowledge management (Brandon, 1990; Davis et al., 2007; Harun and Abdullah, 2006; Male, 1990; Nkado, 2000; Nkado and Meyer, 2001)

3 adaptability and strategic change management (Frei and Mbachu, 2010b)

4 innovation and problem solving (Hardie et al., 2005; Harun and Abdullah, 2006; Smith, 2004)

5 flexibility and versatility of service offering covering all construction sectors (Frei, 2010; Frei and Mbachu, 2010b)

6 interpersonal skills including networking and relationships (Frei and Mbachu, 2010b)

7 global reach (Frei and Mbachu, 2010b)

8 'suitable' organisational structure (Boon, 1996, 2001; Cavill, 1999; Smith, 2004, 2009)

9 negotiation and commercial management (Frei and Mbachu, 2010b)

10 strategic marketing (Frei and Mbachu, 2009; Pheng and Ming, 1997; Smith, 2004).

The above conceptual areas of CSFs are subsumed into seven themes presented in Figure 1 and detailed in Table 4.

Table 4 CSFs for quantity surveying firms

1.1	*Professional attributes*
1.1.1	Competence in cost management core technical skills and techniques
1.1.2	Suitable sector specific experience
1.1.3	Conversant in key construction cost management knowledge areas
1.1.4	Effective in communication and negotiation
1.1.5	Able to identify key drivers of project success from the client perspective
1.2	*Firm profile*
1.2.1	Collaborative team players
1.2.2	Willingness to share in project risks
1.2.3	Value adding
1.2.4	Recognised leaders
1.2.5	Strong brand
1.2.6	Attractive workplace
1.2.7	International knowledge and ties
1.3	*People*
1.3.1	Suitably qualified and educated
1.3.2	Diversity of nationality and gender
1.3.3	Mix of personality types
1.3.4	Good staff fit with organisational culture
1.3.5	Staff loyalty

Table 4 CSFs for quantity surveying firms (continued)

1.4	*Market positioning*	
	1.4.1	Diverse client base from several sectors and stages of the supply chain
	1.4.2	Strategic targeting of 'quality' clients for repeat business
	1.4.3	Diversified service offering encompassing public and private sectors, not necessarily limited to the building construction industry
	1.4.4	Direct engagement by and reporting to the 'end client' on a good deal of projects
	1.4.5	Global reach to benefit from international flows of money
	1.4.6	International connections for outsourcing to lower cost economies
1.5	*Service performance*	
	1.5.1	Accurate and consistent
	1.5.2	Timely and reliable
	1.5.3	Honest and impartial
	1.5.4	Trustworthy and credible
1.6	*Practice management*	
	1.6.1	Unity amongst managing/equity partners
	1.6.2	Effective and efficient strategic decision making
	1.6.3	Strong internal leadership
	1.6.4	Willingness to change
	1.6.5	Flexibility to adapt and respond to identified changes
	1.6.6	Effective change management
	1.6.7	Continually adapt practices to integrate technological advancements
	1.6.8	Remain at the forefront of technological change, integrally involved in research and development
1.7	*Processes*	
	1.7.1	Attraction and recruitment of the best people
	1.7.2	Acquiring knowledge pertinent to emerging service areas
	1.7.3	Capture and management of tacit knowledge
	1.7.4	Accurate job costing (fee proposals)
	1.7.5	Continuing professional development program
	1.7.6	Provision of training to address identified skill shortfalls
	1.7.7	Research, innovation and integral involvement with technological developments
	1.7.8	Effective marketing and promotion of services
	1.7.9	Border scanning to detect new trends and changes

The uncovered CSFs shown in Table 4 are categorised in an attempt to provide an overview to the comprehensive list. The categories identified are professional attributes, firm profile, people, market position, service performance, practice management, and processes.

There are of course a number of other categorisations of controllable factors present in the literature which organisations are urged to heed. Examples of this are the *4Ps of marketing* first expressed by McCarthy in 1960 which include: *product* or *service*, *place*,

price, and *promotion*, a concept that has been amended further by Schultz et al. (1993) to become the *4C's* of: *consumer*, *cost*, *convenience*, and *communication*. Slightly more advanced is McKinsey's 7S model built on the premise that a certain configuration of three 'hard' and 'four' soft internal factors must be aligned within an organisation if it is to be successful. The 'hard' factors are: *strategy*, *structure*, and *systems*, and the 'soft' factors are: *shared values*, *skills*, *style*, and *staff*. These perspectives all assist with understanding the critical internal workings of an organisation, however, the categories formulated in this study were done so for the specific context of the QS profession, drawing from the perspectives set by Mintzberg's (2000) 'design school' of strategy formulation- which forms the theoretical basis for the development of this analytical framework. It should be noted that the devised classifications are primarily to provide overview to the large number of CSFs uncovered, and should not detract from the individual factors themselves.

7 Conclusions

The main aims for this stage of the research work were to establish the CSFs, opportunities and threats affecting the success of quantity surveying firms. Based on the outcomes of a series of in-depth qualitative interviews with key leaders in the profession throughout Australia and New Zealand, this paper presented the identified key CSFs, threats and opportunities. Seven themes were established as underpinning the CSFs for the profession: process, practice management, service performance, market positioning, people, firm profile, and professional attributes. A total of eighteen threats were identified, which could be subsumed into four themes: market/competition, capability/capacity, recognition/relevance, and information/communication/ technology. These were observed to originate from a wide variety of sources including, economic trends, technology, globalisation and structural factors of the industry. Nineteen opportunities were identified, many of which could be categorised as arising from involvement in newly identified or emerging markets, or expansion or penetration of existing markets. Analysis of the internal CSFs returned the greatest variety of factors. To provide some overview, these were presented in the categories to of professional attributes, firm profile, people, market position, service performance, practice management, and processes.

These findings contribute significantly to the development of an analytical framework for diagnosing the strategic health of an organisation from the results of its SWOT analysis, which is the primary aim of the overall research. The in-depth exploration of the key internal and external factors has brought increased validity and reliability to the earlier research through the identification of a comprehensive set of variables. The formulation of a succinct and comprehensive framework of categories listing threats, opportunities and CSFs which affect the success of quantity surveying firms provides a missing link to the existing stock of knowledge. In the context of this overall research project this paper provides the key variables to be rated in the SHI tool to assess an organisation's strategic health condition.

The exploratory nature of this research constrains the extent to which the findings can be considered representative of the entire target population of Australian and New Zealand quantity surveyors. Nevertheless, the main aim of this research phase has been achieved. It is recommended however that these research findings be operationalised for

quantitative testing to obtain the representative views of the target population regarding the importance of each of the factors identified in this study. The representative quantitative feedback would significantly enrich these findings and is in fact crucial to completing the development of the SHI tool.

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