DIMENSIONS OF QUANTITY SURVEYING MATURITY AND THE DEVELOPMENT OF THE PROFESSION TOWARDS A LEARNED SOCIETY

JJP Verster, AC Hauptfleisch and BG Kotzé
University of the Free State, Bloemfontein, South Africa
VersterJ.SCI@ufs.ac.za

ABSTRACT

The Initiative of this study was to identify the dimensions that are important determinants in establishing and developing the level of maturity of a profession. In this case, specifically the quantity surveying society in a specific nation or economy and the maturity level of the profession.

A questionnaire based on previous research results (research on project management maturity done by the authors) was compiled to identify and weigh the most important dimensions of a mature quantity surveying learned society. Leaders in the profession and some identified imminent professionals in South Africa, were requested to evaluate these dimensions according to the level of importance of each. Professional development work done by the South African Council for the Quantity Surveying Profession (SACQSP) and the Association of South African Quantity Surveyors (ASAQS) also contributed to the study. The following dimensions were selected and used for this study: education, training, mentorship, continuing professional development (CPD), research, marketing, infrastructure, law & regulations, standardisation, management practices and total quality management. A weighting of these dimensions was used to propose a maturity model for the quantity surveying profession.

Results showed the dimensions that are perceived to be substantially important for a mature quantity surveying society and facilitated the analysis of results to enable a proposal for a maturity model for the quantity surveying profession as a learned society. Based on the analysis of the identified important dimensions and their weighting, a unique model may be implemented for quantity surveying, thus adding value to the understanding of the profession's maturity.

Key words: Learned society, mature profession, strategic positioning, maturity model, quantity surveying

INTRODUCTION

Nations, regions, industries and associations are continuously striving to become “world class”. This is also true about the quantity surveying profession. The problem is, is the profession a learned mature society? This can possibly be answered by evaluating different maturity models (see Figure 1 and Figure 2) that are required for analysing the maturities of different social systems. The competences required by a company, a nation or society depend on its context (Gasse, 2006: Online).

The Project Management Group of the Wirtschafts University, Vienna, Austria initiated the research programme: *Project orientation [international*] at the beginning of 2005. The objective of the research programme was to analyse and benchmark about 350 project-oriented companies (in about 15 project-oriented nations). The models were based on the project-oriented company and management in a project-oriented society or nation. It therefore also addressed the most important elements of a project oriented nation referred to in Figure 2, in this instance reflecting South Africa. The results gained may lead to strategies on how to further develop maturity models, identified during the study, for the quantity surveying profession (Project Management Group, 2006.)

Project management maturity does not relate to function or knowledge only but is an integrated system dependent on a total measurable profile. This may also be true about the quantity surveying profession (Verster and Hauptfleisch, 2007).

The project management maturity model was used as a guide to develop a quantity surveying model. Project-oriented companies, organisations, enterprises or nations have specific strategies, structures and cultures. A maturity model may be thus divided into dimensions or processes and sub-dimensions. Various weights are allocated to the dimensions to indicate the importance of a specific dimension (Gareis, 2005: 32). This is analysed in a project-orientation maturity model as shown in Figure 1, indicates the dimensions (processes) applicable.

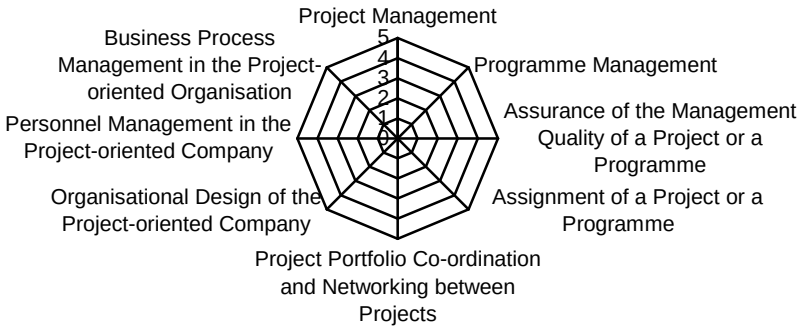

Figure 1: Project-orientated maturity model
Source: Gareis, 2005: 32

This model was used as a viable structure to identify the most important dimensions of a mature learned society of quantity surveyors.

An organisation operates in a bigger system defined as a nation or society/association. The previous research project, describe above, also aimed at providing an understanding of the maturity of a project-oriented nation.

Fuessinger (2006: 3-4) proposes that the maturity of a project-oriented nation should also include the following additional project-management related services:

- **Education** - Formal education programmes are provided
- **Research** - Research projects, publications and events
- **Marketing** - A national project management (professional) association (and it's activities)

The Figure 2 spider web model shows the average project management maturities of South Africa in respect of the results obtained from the survey described above. This served as an example to establish a foundation for identifying the dimensions of a quantity surveying profession maturity model.

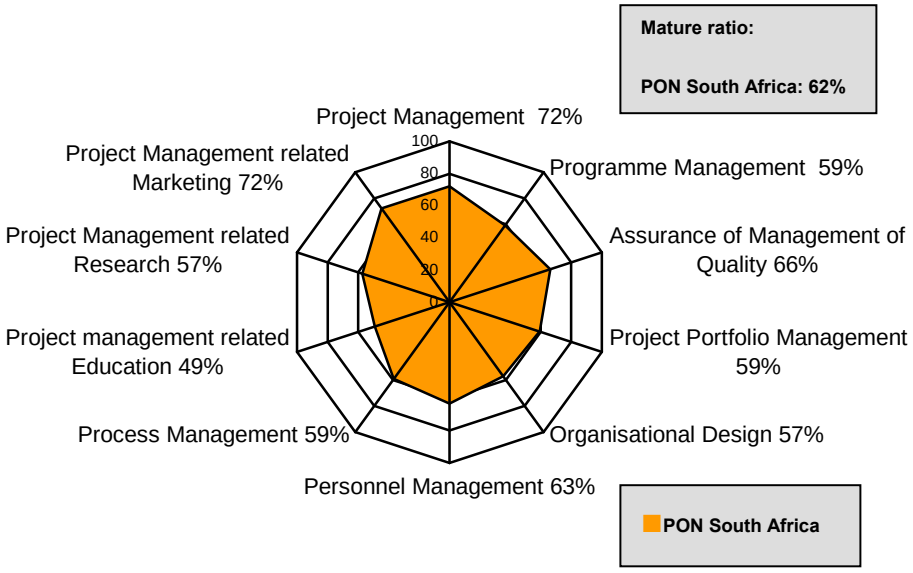

Figure 2: Average Maturities of South Africa based on the survey results (61.6%)
Source: Project management Group, 2006a

Figure 2 shows that the average maturity ratio (including the three dimensions of a mature nation) for South Africa is 61.6%. South Africa shows a high maturity ratio in Project Management at 72%. Organisational Design (57%) and Project Management related Education (49%) shows the lowest maturity ratio and are thus the development areas for South African organisations.

The research in respect of project management maturities of nations or societies, concentrated on dimensions and processes related to key performance areas or functionalities within a specific social system. These dimensions and processes were influenced mainly by performance and perceived outcomes of the functions.

RESEARCH METHODOLOGY

The aim of the research project was to establish the most important dimensions (elements) that may determine the level of maturity of a social system, association or specified profession specifically as a learned society. A selected group of 107 professionals, including prominent quantity surveyors, board members of the Association of South African Quantity Surveyors members of the South African Council for the Quantity Surveying Profession and academics who are seen as the leaders of the quantity surveying profession were requested to complete a questionnaire and the results were used to capture the data. 56 Responses were received from the invited group reflecting a 52% response rate.

The questionnaire was based on research by the Project Management Group Wirtschafts University of Vienna, Austria as well as research by involved researchers of the University of the Free State (Project Management Group, 2006a; University of the Free State, 2007).

The questionnaire for the project management maturity analysis is based on 11 identified dimensions that are seen as important indicators of a mature and learned society and consisted of 20 questions per dimension. It was structured according to the dimensions or processes of a mature profession. To illustrate the value, a brief overview of each dimension tested is necessary:

EDUCATION (Dimension 1)

Education is perhaps the most important dimension to determine the level of maturity of a specific profession within the investigated social system per nation.

This is evident in the registration policies of statutory council, membership acceptance by institutions or associations and the level of education expected of entrants for membership or registration (RICS, 2005; 2007: online; ASAQS, 2007: online; SACQSP, 2007: online; 2007a; 2007c; CIOB, 2007: online).

In South Africa, as in many other countries, standards to be achieved by entrants are generated for each profession and for providers of education.

It is important to evaluate the notion of a profession regarding education elements such as entry level qualifications accreditation of providers, level and number of higher qualifications within the profession, and the provision of technical expertise within the system. For this reason these elements were indicated in the questionnaire

TRAINING (Dimension 2)

Most professions require an in employment training period after qualification to ensure that candidates within adjust to practice and are trained to practice as an independent functionary profession.

The South African Council for the Quantity Surveying Profession (SACQSP) requires an in-house candidateship of three years after obtaining a recognised tertiary qualification with some allowances for recognition of pre-qualification employment (SACQSP, 2007a; 2007b).

Respondents' perception in respect of the principle and duration of training were obtained to establish the importance of training and the training time period.

MENTORSHIP (Dimension 3)

The research aims at various interventions to uphold and promote improvement in standards regarding the development of a profession and of professionals. It is thus noteworthy that experiential training, supported by active mentoring, may not emphasised adequately. As is the case for professions such as medicine, accounting, engineering, law, etc. it is imperative that the scientific use of mentoring in developing a learned quantity surveying profession should be mandatory (Verster and Hauptfleisch, 2007).

The general accepted meaning of mentorship is that it is utilised to support a process of transferring knowledge and skill. Typically this entails that an older knowledgeable person imparts knowledge and skills to a younger protégé (Verster and Hauptfleisch, 2007).

Mentorship is seen as an important dimension of a mature profession in a learned society. The research project endeavoured to establish the importance rating of mentorship as seen by the selected respondents.

CONTINUING PROFESSIONAL DEVELOPMENT (CPD) (Dimension 4)

Continuing Professional Development (CPD) is seen as one of the most important dimensions in ensuring that a profession or function within a specific society or association and the members thereof are continuously developed to keep up with the latest tendencies, skills and knowledge relevant to a specific profession. This must be done throughout professional life (Cruywagen, 2007).

Many professional bodies, councils and associations have policies in place to ensure that registered persons or members achieve the CPD requirements. Some examples are the RICS, ICEC, CIOB and the SACQSP (SACQSP, 2007: online; CIOB, 2007a: online; ICEC, 2007: online; RICS, 2007: online).

Previous research indicated that 77% of the quantity surveying respondents of that specific research project conceded that some CPD was necessary for a profession (Cruywagen, 2007: 98).

The perceptions of respondents were tested to establish the level of importance of CPD, and their opinions in respect of the current number of hours per year required by the SACQSP.

RESEARCH (Dimension 5)

The research output of a specific society and it's members is an important benchmark to establish the level of maturity of scholarship within a specific social system.

The importance of research is underscored by noteworthy professional institutions. An education provider for instance can not join the RICS partnership if they do not achieve the required research output (RICS, 2007a: online).

The latest requirements for accreditation of providers of quantity surveying education in South Africa also include the same level of research output as the RICS (SACQSP, 2007b).

The level of importance given to research by respondents assisted with establishing the perceived importance of research as a dimension and also the maturity of the society in understanding the role of research and the profile of quantity surveying in South Africa.

MARKETING (Dimension 6)

Referring to marketing as a maturity dimension within the profession of project management, Fuessinger (2006: 3-4) defines marketing as a national project management association.

For the purpose of the research project, marketing is extended to involve an established identity and status of a profession, members standing in a society, and a marketing strategy by the profession.

During 2006 the ASAQS engaged a re-vitalization exercise; a national co-ordinated strategic plan to replace the 1990 model and strengthen the professions image in the market. This exercise is currently ongoing (ASAQS, 2006).

This dimension was also tested to establish the level of importance of marketing in a mature profession.

INFRASTRUCTURE (Dimension 7)

The creation and availability of infrastructure to support members of a profession is seen as an important element of maturity for a specific profession.

The ASAQS realised this in 1996 and the Edu Tech Centre was established in Port Elizabeth and later moved to Midrand (near Johannesburg) the primary aim to support membership in respect of education, training, CPD, technical support and the development of standard and model documentation (ASAQS, 2005: online).

Response in respect of the role of infrastructure on the maturity profile of the quantity surveying profession was needed to establish relevant importance of dimensions or determinants.

LAW AND LEGISLATION (Dimension 8)

Not all professions within a specific country are governed by Law and legislation. The status of many professions as learned societies rely on the need of the services required by the market. Discipline and control in respect of ethics and standards are upheld by an established professional body like the RICS, ICEC and CIOB. By law, in South Africa, the ASAQS is a voluntary organisation of members elected to join the association if they possess the required entry level (South Africa, 2000)

The quantity surveying profession is however governed by an Act. The act aims at ensuring standards and discipline in respect of the profession in South Africa (South Africa, 2000). This dimension was tested to establish it's relevant importance.

STANDARDISATION (Dimension 9)

The ASAQS and other professions in South Africa have, separately and jointly, over many years, developed standards and model documentation to assist the members to perform their duties and to enable the market to standardise in respect of systems, contract documentation, reporting and communication (JBCC, 2000: 9).

Standardisation as a dimension was included in the questionnaire to establish its role and influence on the profile of the profession as a mature profession and a learned society.

MANAGEMENT PRACTICES (Dimension 10)

The evidence of management practices within a profession may also be seen as an important determinant of a mature profession. This was true in respect of the maturity research done previously. Business process management was identified as a dimension of reasonable importance for maturity measurement of a project orientated company. A weighting of 10% was allocated to this dimension (Garies, 2005: 32 and Gasse, 2006: Online).

It was therefore necessary to include management practices as a dimension in the questionnaire to establish its relative importance in respect of role and influence on the quantity surveying profile.

TOTAL QUALITY MANAGEMENT (Dimension 11)

The evidence of total quality management systems present within a profession to ensure the delivery of quality services to clients is seen as a dimension and determinant of the level of maturity of a profession.

Gareis identified assurance of quality as an important dimension of a project management–oriented maturity model, with a 10% weighting (Gareis 2005: 32; Gasse, 2006: Online).

It may therefore be suggested that quality management of services within a social system is important in establishing the maturity of a specific social system.

It needs to be pointed out that education, training, CPD, mentorship, research and discipline within an association are related to the governing of a profession and are therefore also quality indicators.

RESEARCH FINDINGS

The questions in the questionnaire were answered individually by the respondents in order to determine their perceived opinion about the importance of each dimension's role and influence on the profile of the quantity surveying profession, specifically related to South Africa. However, this may also be true in respect of quantity surveying in other social systems and/or nations and perhaps for other professions.

The respondents were requested to give their opinion on the level of maturity of the profession related to the 11 dimensions. This was a perception test only but may be valuable to understand the anticipated difference between opinion of maturity and perhaps the under-valuation by respondents of a very important dimension or determinants of a learned society.

The respondents' responses to the twenty questions related to the 11 dimensions as determinants of the quantity surveying profession, as a mature and learned society, in South Africa is shown in Table 1 as averages of all questions answered related to each dimension.

Table 1: The importance of the Dimensions

1 - Dimension	**Average on 1-5 scale**
A. Education	4.0
B. Training	4.0
C. Mentorship	4.6
D. CPD	4.0
E. Research	4.0
F. Marketing	4.1
G. Infrastructure	4.0
H. Law and Legislation	4.7
I. Standardisation	4.4
J. Management Practice	4.1
K. Total Quality Management	3.8
2 - Opinion Quantity surveyors as a mature learned society	3.9

Source: (Verster, 2007a. Own table)
(Results in table 1 were captured from a 1-5 point Likert scale where A to K is 1 = not important and 5 = most important. For testing opinions as shown as 2:, a 1-5 point Likert scale was also used where 1 = not at all and 5 = completely)

As indicated by respondents, all 11 dimensions are seen as very important to establish a mature learned society. The weighting of each could not be done from the results and more research is needed, but it is reasonably clear that the dimensions selected by the research group are seen as important. The opinions of respondents related to sub-dimensions may also be noteworthy. Sub-dimensions are seen as elements that may be important in supporting main dimensions.

Table 2 illustrates the averages on a 1-5 point Likert scale where 1 = not important and 5 = most important to measure sub-dimensions related to each of the 11 dimensions included in the questionnaire.

Table 2: Sub-dimensions: the expected level of graduate education and profile of professionals

SUB-DIMENSIONS	**1-5 Scale**
Education (Dimension 1)	
1.1. An honours degree	4.4
1.2. Number of Masters and Ph.D degrees present in a professional society	3.4
1.3. Education providers with international accreditation	4.3
1.4. Education of technicians	3.9
Training (Dimension 2)	
2.1. Post-honours training (two years)	4.0
2.2. SACQSP (three years)	4.1
CPD (Dimension 4)	
4.1. Obligatory career CPD	4.2
4.2. SACQSP rules: 25 hours CPD per year	3.8
Marketing (Dimension 6)	
6.1. Identity and status of profession's growth	4.1
6.2. Profession's official marketing strategy	4.1
Infrastructure (Dimension 7)	
7.1. Institutional support and control	4.0
7.2. Training and technical support (EduTech)	4.0
Law and Legislation (Dimension 8)	
8.1. Discipline and control by Act, regulations, code	4.7
8.2. Professional ethics	4.7

Source: (Verster, 2007b. Own table)

Respondents indicated that the number of individuals/members with M- and PHD degree in a learned society is not as important as for most other sub-dimensions.

The question may therefore be asked; is this not perhaps a negative indication of the maturity level of this specific society?

Analysing the above, the following becomes clear in respect of the sub-dimensions:

- An honours degree as entry level to the profession is identified as most important for a profession to be seen as mature and a learned society (88% importance).
- The three-year training period for candidate quantity surveyors are preferable to the two-year period, although the two-year training period was also identified as very important, the majority of respondents actually indicated a preference for a three-year training period.
- CPD is seen as important although respondents are inclined to prefer lesser hours than the current system in South Africa (of 25 hours per year).
- An established identity in the market is shown as important for the identification of the professions in a mature system.
- Infrastructure is important and an official support centre is identified as an equally important sub-dimension.
- Respondents were almost unanimous in identifying law, acts, regulations and professional ethics as vitally important. An average of 94.2% importance was allocated to this sub-dimension.

CONCLUSION

The first objective of the research project was to identify the most important dimensions. It was expected that some of the dimensions and sub-dimensions would have been identified as less important. The respondents did not respond in this manner. It is important to note that the research group achieved reasonable success in identifying 11 very important dimensions of a mature learned society.

It is also proposed that some dimensions may be combined to establish a viable maturity model based on the proposed eight most important dimensions. These combined dimensions are indicated in Table 3.

Table 3: The eight most important dimensions and their importance

EIGHT MOST IMPORTANT DIMENSIONS	IMPORTANCE
1. Education	4.4 (88%)
2. Training and mentorship	4.3 (86%)
3. CPD	4.0 (80%)
4. Research	4.0 (80%)
5. Marketing and infrastructure	4.0 (80%)
6. Law and legislation	4.7 (94%)
7. Standardisation	4.3 (86%)
8. Management practice and quality management	4.0 (80%)

Source: (Verster, 2007c. Own table)

From the above it becomes clear that the allocation of weights to the various dimensions may be very difficult if not impossible. However, it may perhaps not be as important as originally thought since it may be deduced that the dimensions should be in balance, and therefore, for a learned society to be seen as mature, all identified dimensions should be present and strong.

Further study to benchmark the professions to the eight most important dimensions may constitute the next research project.

RECOMMENDATIONS

The research previously done in respect of maturities of nations or societies concentrated on dimensions and processes related to key performance areas or functions within a specific social system, influenced mainly by performance and perceived outcomes. It is proposed that a model may be developed to determine the maturity profile of a social system (profession, society or nation) as a learned society.

It is proposed that associations, institutions, or a society can be measured in respect of it's maturity as a learned society by measuring it's strengths in respect of the eight suggested dimensions in table 3 relative to the importance levels as well as the standing and presence of the various maturity dimensions.

Figure 3 shows the following as a maturity spider web to suggest the form that a model for a profession's maturity may take. Three series are shown in the spider web, these are:

Series 1: The importance as identified by respondents (Response)

Series 2: The quantity surveying profession in South Africa as a mature, learned society: Average given by respondents (QS maturity)

Series 3: The research group's proposed maturity level: The yardstick that may be related to measure a social system's maturity as a learned against society (Research Group)

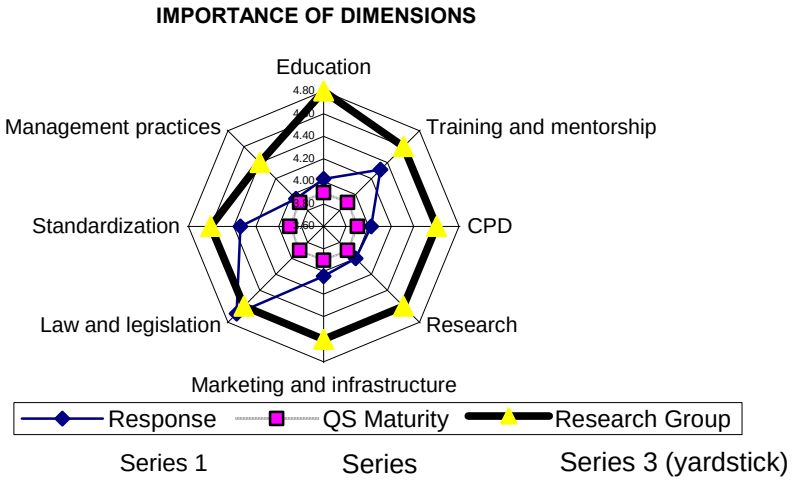

Figure 3: Spider web for a maturity model of a learned society
Source: (Verster, 2007d: Own figure)

The direction that the research may take towards the actual measurement of an association based on an investigation of the presence and standard levels of each dimension compared to what is seen as world class in related societies. The pillars of a learned society are identified, but to understand the maturity of a specific society, the standard levels of each dimension or pillar should be measured. The results of these measurements will support strategic development of such a society.

REFERENCES

ASAQS (Association of South African Quantity Surveyors). 2005. Edu Tech Centre. Professional and technical support in quantity surveying. Available from: <http://www.asaqs.co.za/edutech/> [accessed 4 December 2007].

ASAQS (Association of South African Quantity Surveyors), 2006. Board meeting, October.

ASAQS (Association of South African Quantity Surveyors), 2007. Association of South African Quantity Surveyors ' web site. [online]. Available from: <http://www.asaqs.co.za/> [accessed 4 December 2007].

CIOB (The Chartered Institute of Building) 2007. Membership. [online]. Available from: <http://www.ciob.org.uk/membership> [accessed 4 December 2007].

CIOB (The Chartered Institute of Building) 2007a. CPD. [online]. Available from: <http://www.ciob.org.uk/membership/continuingprofessionaldevelopment> [accessed 4 December 2007].

Cruywagen, H. 2007. Continuing professional development for the quantity surveying profession in South Africa. Acta Structilia, 14(2) pp. 91-103.

Fuessinger, E. 2006. Maturities of project-oriented companies of about 15 project-oriented Nations. In: 1st International Cost Engineering Council (ICEC) & International Project Management Association (IPMA) Global Congress on Project Management, Proceedings. Ljubljana, Slovenia, April.

Gareis, R. 2005. Happy Projects!. 1st ed. Vienna. Manz

Gasse, F. 2006. Maturity Model of the Project-Oriented Company. [Online]. Vienna. Project Orientation International. Available from: <http://poi.pmgroup.at/index> [accessed 6 June 2007].

ICEC (International Cost Engineering Council) 2007. ICEC Accredited Certification and Continuing Professional Development Programs. Available from: <http://www.icoste.org/accred.htm> [accessed 4 December 2007].

JBCC (Joint Building Contracts Committee). 2000. Standardization. Standard System ed. 6, JBCC 2000 series.

Project Management Group, 2006. Results of Maturity of the Project-Oriented Company, Groups and South Africa. Vienna University of Economics and Business Administration, Vienna, Austria

Project Management Group, 2006a. Project- orientated company mature. [online]. Available from: http://www.poi.pmgroup.at/index.php?id=76 [Accessed 25 March 2007].

RICS (Royal Institute of Chartered Surveyors). 2005. Education and Training Department. Policy and guidance on university partnerships. London: RICS, August.

RICS (Royal Institute of Chartered Surveyors). 2007. Join RICS. [online]. Available from: <http://www.rics.org/JoinRICS/> [Accessed 4 December 2007].

RICS (Royal Institute of Chartered Surveyors). 2007a. Research and reports. [online]. Available from: <http://www.rics.org/Newsroom/Researchandreports/> [Accessed 4 December 2007].

SACQSP (South African Council of the Quantity Surveying Profession). 2007. South African Council of the Quantity Surveying Profession Website. [online]. Available from: <http://www.sacqsp.org.za/> [Accessed 4 December 2007].

SACQSP (South African Council of the Quantity Surveying Profession). 2007a. Identification of work provisional document. Agenda items.

SACQSP (South African Council of the Quantity Surveying Profession). 2007b. Minutes of the Council Meeting, 23 March, Midrand.

SACQSP (South African Council of the Quantity Surveying Profession). 2007c. Accreditation Policy Document, accepted at the Council Meeting of 23 March, Midrand.

South Africa. 2000. *Quantity Surveying Profession act, Act 49 of 2000*. Pretoria: Government Printer.

University of the Free State (UFS), 2007. Survey on Dimensions of a Mature Quantity Surveying Profession. Bloemfontein: UFS.

Verster, J.J.P. 2007a. Table 1: The importance of the Dimensions. Bloemfontein: University of the Free State.

Verster, J.J.P. 2007b. Table 2: The expected level of graduate education and profile of professionals. Bloemfontein: University of the Free State.

Verster, J.J.P. 2007c. Table 3: The eight most important dimensions and their importance. Bloemfontein: University of the Free State.

Verster, J.J.P. 2007d. A maturity model of a learned society. Bloemfontein: University of the Free State.

Verster, J.J.P. & Haputfleisch, A.C. 2007. Project management maturity in the South African construction industry. 2nd Built Environment Conference. Association for Schools of Construction of Southern Africa (ASOCSA) and the Council for the Built Environment (CBE). 17-19 June. Port Elizabeth.