

Tertiary Education – International Study of Quality Management Systems – Issues Relevant to New Zealand

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Abstract

Quality Management Systems (QMS) are the current buzzwords in tertiary education in New Zealand (NZ). The tertiary sector is not exempt from the impact of this 'reform initiative'. Accepting New Zealand's geographic isolation from the rest of the world, the author seeks to compare QMS as expressed amongst NZ Private Tertiary providers with overseas explainers. This paper reports on a comparative investigation utilising quantitative and qualitative methodology that investigates QMS at six theological providers in the United States of America (USA) and three such providers in the United Kingdom (UK). Based on this analysis, issues are raised that could be of benefit to tertiary providers in NZ and Australia.

Introduction

Quality Management Systems (QMS) are the current buzzwords in tertiary education in New Zealand (NZ). The tertiary sector is not exempt from the impact of this 'reform initiative'. Accepting New Zealand's geographic isolation from the rest of the world, the author seeks to compare QMS as expressed amongst NZ Private Tertiary providers with overseas explainers. This paper reports on a comparative investigation utilising quantitative and qualitative methodology that investigates QMS at six theological providers in the United States of America (USA) and three such providers in the United Kingdom (UK). Based on this analysis, issues are raised that could be of benefit to tertiary providers in NZ and Australia.

The term "quality system" first appeared in the tertiary education lexicon during the last decade. Deming (1993, p. 4) provided a working definition when arguing that a "quality management system is a network of interdependent components that work together to try to accomplish the aim of the organisation". He (ibid, p. 5) noted that "the greater the independence between components, the greater will be the need for communication and cooperation between them."

Barret (1999, p. 5), notes:

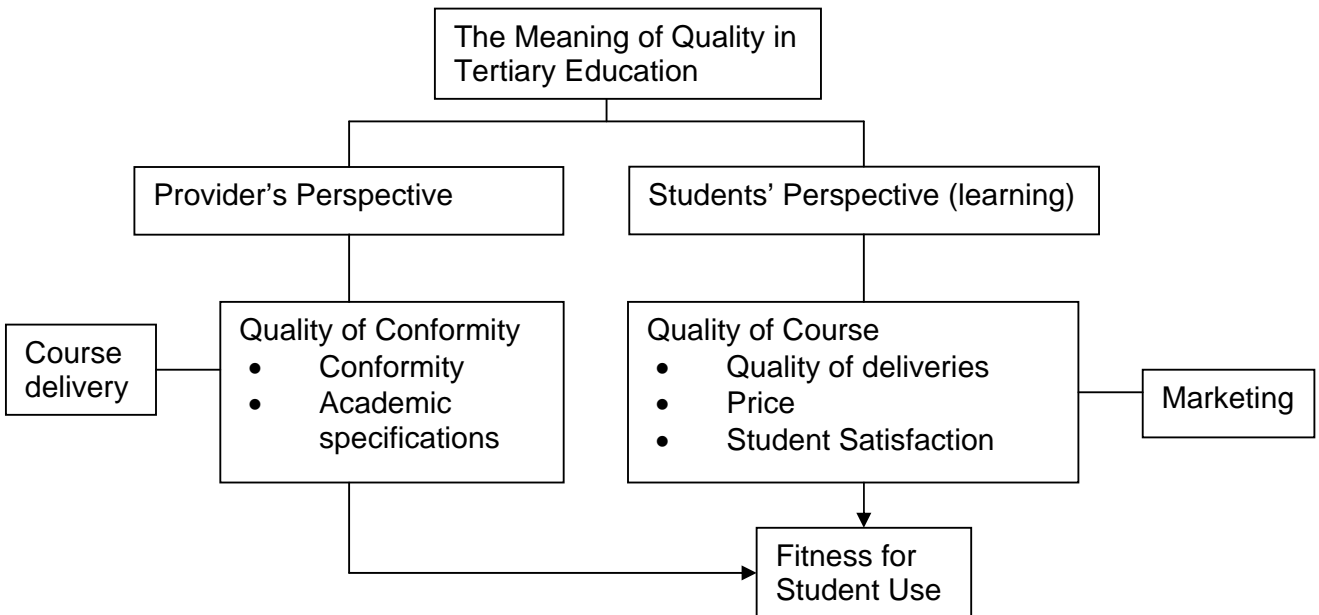
in the past 10 - 15 years, higher education has slowly appropriated many of the QMS principles developed initially for business. This has resulted in a quality and systems culture being adopted in many leading institutions, transforming them

into more effective and efficient organisations than they were previously.

Banister (1992, p. 2) noted in the case of tertiary education, a provider does not normally get a second chance of fixing a bad job within the training offered, it only loses goodwill.

In attempting to further define what is quality (moving theory to practice) Winart (1999, p. 1), found the concept of quality was subjective, and difficult to define. Ultimately he concluded that much of the judgement of quality rests with the customer, stakeholder, or client (student), as illustrated in the diagram below. Dimensions of quality could be defined as performance indicators, or basic operating characteristics. These became useful criteria, in establishing SMART (Specific, Measurable, Achievable, Relevant, Timed), goals within each standard.

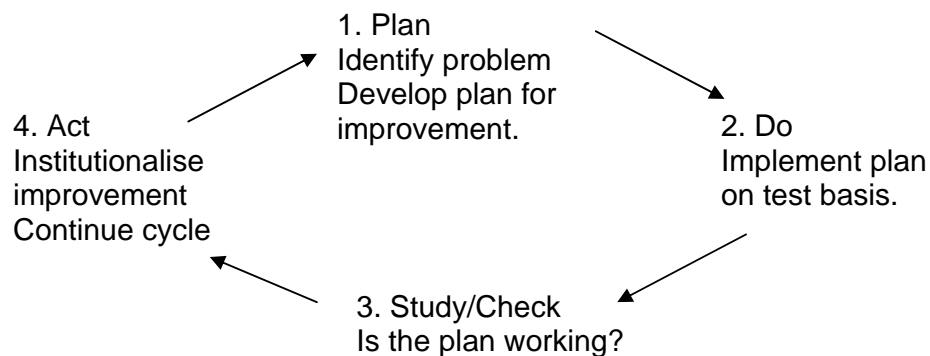
Figure 1: The meaning of quality in tertiary education



The quality cycle

The Deming Wheel (Deming, 1986, p. 36) (or P-D-C-A Cycle) also known as the Shewhart wheel after its inventor of 1939, (fig. 2) is at the centre of this understanding, and therefore made very good sense serving as a framework for an approach to implementing a QMS and Audit system.

Figure 2: The P-D-C-A cycle



Deming (1986, p. 76) detailed the fourteen foundation points he perceived as the basis for the implementation of a QMS. Further, Barret (1999, p. 6) reported that Samford University, Birmingham, USA, had adopted the 14 Points System of Deming with considerable enthusiasm and success. The university, he claimed, had improved within a number of rating systems, agencies, and publications. His report provided a valuable insight as to the value of Deming's work in other settings. Samford's processes are detailed in the work of Harris and Baggett (1992), and outcomes reported in Corts and

Eck (2002). It was on this basis that the 14 Points, as outlined by Deming, were re-written by BCNZ into the context of the Theological sector (Knox, 2002a). BCNZ (Knox, 2002b) as an institution found these extremely useful in adopting QMS processes.

Purpose of this investigation (BCNZ gained side benefits)

The reform initiative heralding the value of QMS in tertiary provision in general left the author with the question, What is happening with regard to QMS in other parts of the world's theological providers? Is what is happening in NZ unique, setting a trend, or following what has happened elsewhere?

Private tertiary institutions in New Zealand are accredited by the Government accreditation agency (New Zealand Qualifications Authority, NZQA). The process involves an initial accreditation visit for the site's registration and programme approval. This is followed by subsequent audit visits by the authority at 1/2/3 yearly intervals. The audit is against Quality Audit Standard One (QAS 1) in which the provider quality performance is ascertained. QAS 1 is an evidential basis process, seeking evidence that the provider is performing against KPI. It seeks to move the provider from compliance to effectiveness, and encourages a high level of self-review and validation of a provider's internal QMS processes. Hence, providers have developed internal processes of QMS, that operate, in BCNZ's case, on an annual reporting and peer review cycle. This paper provides some reflections relevant to BCNZ.

Comparative Investigation

Under the sponsorship of the Peter Karmel International Research Grant (ATEM 2002), the author undertook a comparative investigation between New Zealand (NZ), United States of America (USA), and United Kingdom (UK). (The Australian leg of the investigation is to be completed in October 2003). This involved both quantitative and qualitative type investigation amongst 6 providers in USA and 3 in UK (See Appendix 1 and Appendix 2 for questions and results). Providers were asked to respond objectively to a series of structured quantitative data gathering questions as well as engage in an open-ended face-to-face qualitative interview exploring each provider's perceptions and practice of quality management in the theological education setting. Each interview was transcribed and analysed utilising standardised techniques within qualitative research. The results arising from this investigation are as follows.

Results

The sample within USA and UK chosen to investigate spanned the whole spectrum of tertiary provider types in these geographic locations. These fairly represented the sector and the spokespersons chosen to interview spoke out of their individual provider's viewpoint but also out of their part of the sector. Hence, a representative picture of the USA and UK landscape for QMS and tertiary providers was achieved. Within the USA sector some providers had accreditations from 2 or 3 accreditation groupings.

Within USA the accreditation body varied depending on the provider, its level and its standing in the sector. Some ranged from no accreditation at all to multi level accreditation being pegged in the top of the league tables. The contrast in the UK showed that all providers at university level with Ministry recognition had accreditation relationships whereas those at pre degree had no formal accreditation relationships.

USA Investigations

Within the USA all providers are required to belong to an accrediting association if they are to receive government recognition. However the federal government is not responsible for provider quality but requires providers to be part of a recognised grouping. The Council for Higher Education Accreditation (CHEA) lists within its database the approved accreditation bodies and each body's recognised members.

Providers within the USA undertake accreditation according to the following tiers:

Institutional accreditation (tier 1) comes from the regional accreditation associations (e.g. Southern Association of Colleges and Schools {SACS}) that serve all providers in their region regardless of the discipline engaged in (Southern Association of Colleges and Schools, 1997). Its accreditation is institution-wide, encompassing any theological offerings and all aspects of a college or university. These regional accrediting agencies are themselves certified by the U.S. Department of Education, as indicated above. A second tier involves specialized accrediting agencies, which certify special programs or subjects, for example: Theology (ATS), Chemistry, Music, Business, Nursing, etc. While they use the word "accrediting," they actually provide a sort of supra approval, or assurance of having met particular standards in that subject area. However, U.S. institutions would decide on transfer of credits, etc., on the basis of regional accreditation.

The theological sector in US, as introduced above, spans two discipline-based groupings. Firstly the Association for Theological Schools (ATS) (www.ats.edu) to represents graduate and professional study of theology in mainly Seminaries or Divinity Schools. Secondly the Accrediting Association of Bible Colleges (AABC) (www.gospelcom.net/aabc/) represents the grouping of Colleges who solely teach in the Theological disciplines primarily at sub degree and under graduate degree level. Providers can belong to one or two of these subject-based groupings depending on the range of programs they offer. These second tier groupings provide, as introduced above, a pattern of assurance that members have met particular standards in that subject area. Alongside this many also belong to the regional accreditation groupings.

The Council for Christian Colleges and Universities (CCCU) (www.cccu.org) also represents a grouping of private tertiary Colleges or Universities in USA in which students have the option of, or a required as a compulsory core,

undergraduate studies in Theology. This is one of many such associations¹ throughout the US providing fraternal oversight. It does provide gate-keeping at the point of admission to membership, but that is all. They have annual meetings, conduct programmes together, share information, and group purchasing. But no accrediting, or quality assurance, is practised.

Furthermore within the theological sector of USA, I also discovered a wide grouping of non-accredited providers. The institutions functioned as stand alone outside of any approval system and primarily were church based theological education (CBTE) type institutions. This CBTE movement in USA was according to respondent four "very fast growing and came about because of the providers inherent understanding of Biblical principles, in particular that of the 'Priesthood of all Believers'" (Dr Ted Ward, personal communication, 26 May, 2003) and/or a void between the institutions and the stakeholders the church" (May 12, 2003). Respondent four further suggested that "the stakeholders didn't believe the providers were meeting their needs so they commenced their own training program" (ibid.). This suggests the fitness for use test as outlined in the definition of QMS suggests that in this case the product being produced by the providers was in general not fit for use, hence the new stream of training. (Where is BCNZ in this CBTE debate and practice?)

UK Investigations

Within the UK the theological sector is covered by Public Universities having a Theology faculty, Denominational providers functioning at university level, training primarily ordination students, Bible Colleges functioning at university and pre university level, and the CBTE movement. (The CBTE is also a growing sector in the UK, and is primarily as training outside of the official education system.) The Denominational Providers and the Bible Colleges for their work at university level all are required so as to gain Ministry recognition to be accredited in a partnership with a public provider such that the degree is in the name of the host public provider. This is by contrast with the USA since in the UK provider accreditation comes from their partnered accreditation authority for university level programs if they are a private institution (LBC is accredited by Brunel University) or in their own right if they are a public provider (eg Edinburgh University). The focus of this partnered relationship is primarily that of subject accreditation from the host provider. In other words the foci of any QMS is specific to the academic systems.

For pre university programs the providers in UK operate solely in their own right and have no specific accreditation authority to which they relate. This is the same for the CBTE providers.

In non academic realms all provides are subject to the Charities Commission which validates the financial viability of the private not for profit providers with and annual audit and random visits

¹For Example: Southern Conference of Church-Related Universities, American Association of Colleges and Universities, Association of Governing Boards of Colleges & Universities, Association of Southern Baptist Colleges and Schools

Difference between USA and UK

The systems differ in the following ways; in USA the accreditation visit is 5-10 yearly, whereas in the UK that was the case but the Government Ministry responsible for tertiary education is requiring the UK provider to report annually, but in reality achieve the same following outcomes with regard to academic quality management. These are: pass rates, standard of work and student satisfaction.

Generic Common Themes

Resultantly, the type of QMS by each provider, utilised, also varied markedly, but three common trends across the sample did exist. All providers acknowledged that the peer review accreditation visit or external moderation from the regional association, Partnered Public Provider or official Government Ministry provided incentive to ensure all systems were in place. These visits ranged from annually to 5-10 yearly depending on the country involved or the institutions standing, the visit focused on reviewing the institution against pre determined academic delivery system criteria (standards) in terms of a systems analysis. (See Appendix 1 for these criteria). Up until this point in time most such visit didn't address issues of evidence based effectiveness but rather were limited to as whether or not appropriate systems were in place or not. The question as to whether or not these were making any difference or improvement in the quality of learning and teaching was not a question that was primarily being addressed.

The second common theme (effectiveness not just compliance)

The second common theme was that most respondents in USA or UK also admitted that in terms of intentional quality reporting very little happened between visits or audits. Most could not point to a Quality Policy or Quality Manual demonstrating and integrated coherent approach to quality monitoring and improvement.

Respondent one: "Having achieved the tick of accreditation what more do we need to do" (April 16, 2003). Intentional QMS year by year was generally not a pattern in the USA or UK providers radar at this stage.

Respondent two: "As far as annual QMS reporting goes we are aren't doing anything" (April 17, 2003). However one UK provider did report that their Governance Board had requested that the provider develop KPIs and report annually to the Board as to their performance against these KPIs. This was the first glimmer of intentional reporting of this type so as to create a quality circle approach.

These factors proved strange to the interviewer when all respondents also admitted they wanted to have the best position possible in the published USA league tables or in terms of UK reputation. These perceptions had a dramatic impact on enrolments. But the connection between output results which was what the league tables were based upon and a culture of deliberate

intentional quality improvement did not seem to have been made in the majority of cases.

The third theme (mission is vital)

The third theme was that a small group of the respondents also acknowledged that they had to be more intentional in being able to report their quality. This had to become formalised as part of the institution's culture. The patterns of the past were no longer appropriate. One provider was part of the subject association's pilot in developing new standards with new accreditation procedures for its members (this did not go as far as annual intentional quality indicators embedded into a quality improvement culture). Another set of providers due to their deep commitment within their special character believed absolutely that improvement and learning was part of their Christian mandate and this spilled over to a very informal but highly structured culture of improvement in terms of the teaching and learning process on an annual basis. These providers had no policies or procedures or manual of KPIs but on an annual basis undertook a 'quality cycle' process with respect to their student processes. Further, a very historic provider had just embarked on a journey of quality improvement within the organisation acknowledging the past was no longer good enough. They had undertaken a period of effective consultation and buy in from key stakeholders. From here their goals and mission were reviewed and KPIs developed so as to demonstrate that if the mission was x & y then they had processes in place that could demonstrate that they actually were achieving x & y and had evidence to show as such. If they weren't achieving x & y they then wanted to embark on a process as to why not and what had to change so that they could.

Furthermore another provider traditionally enjoying considerable freedom within their 5-yearly accreditation now was subject to Government Ministry reporting on an annual basis that even through this eroded the provider's freedoms and impacted their work flows, did in fact force the issue of quality assurance improvement.

One provider stood out (A useful model)

Finally, another provider had pioneered QMS development within tertiary settings and their responses were not typical to the rest of the sample. Respondent four in discussing this institution stated "their approach to QMS was unique within the theological sector of USA".

Institution three was identified 10 years ago as at the forefront of the application of Deming's principles to tertiary endeavours. This initiative is reported on in the initial paragraphs of this paper.

This provider has over the past 10 years evolved a process of Betterment as its version of QMS (Ash, Borden, Brymer, Chapman, Dean, Fiske, et al, 2002). This University's approach to Betterment can be summarised as follows. Annually each School/Faculty has to report its performance against 39 agreed KPIs covering market demand, capital indicators, operating ratios,

and other financial factors. Alongside of these financially driven criteria were 14 dashboard indicator that summarised the financial performance alongside that of enrolment, satisfaction and graduation data (see Appendices 3, 4, and 5). These KPIs consolidated make up the annual institutional profile. Further each school has to determine its response to the agreed statement of Institutional Values and Vision (see Appendix 6) and demonstrate how they as a School are expressing and meeting these criteria. School to school the methodology differs depending on the discipline. This data becomes part of the annual report of the provider meeting its expressed purpose and goals. Furthermore, the notion of fitness for use is validated by annual engagement with graduates, stakeholders and employers as to the effectiveness of the graduates for the industry they serve. The basic question as to whether the curriculum was up to the mark was the thing in question. If not, the curriculum was modified in light of this feedback. This improvement loop was vital in the providers ongoing striving for betterment.

This institution in reflecting on the 10 years of operation noted that lessons had been learned as follows. They started attempting to measure everything and have moved to deliberate and target measurement (Harris and Sanson, 2002).

The current issues for them are the realisation that QMS is more than numbers (Harris and Sanson, 2002) and the issues of effectiveness are beyond tick a box of compliance. In the main the introduction of peer reviews is a key method to enhancing awareness in a culture of achieving betterment.

In summarising the steps to betterment at respondent three, they are as follows: (Ash, Borden, Brymer, Chapman, Dean, Fiske, et al, 2002)

- Focus on those we serve
- See messes as opportunities to improve
- Simplify
- Design workable improvements
- Work cooperatively (pg. 1)

These steps have become the underlying embedded culture of the organisation and represent the way of doing things within the institution. As such they have embodied the ideas of Deming, adopted his steps, yet maturing this concept further, and developed a framework for an educational provider to intentionally address issues of quality in such a way as to achieve institutional betterment. This evolution of thinking was reported on as the keynote address at the recent International Assessment Conference in Cape Town, July 2003, in which it was argued:

Quality improvement in any organization is about improving outcomes for stakeholders. Consequently, all quality improvement begins with a deep understanding of stakeholders' needs and expectations. From this understanding, the organization shapes its mission and vision. A mission-driven, vision-focused organization continuously aligns and optimizes all its systems, processes, and resources for maximum stakeholder

value. Organization's structure is designed to optimize its results. Yet universities often adopt classical structures that prevent them from delivering maximum stakeholder value. This paper concentrates on the student-stakeholder and the student's learning as the principle value that a college or university provides this stakeholder (Harris, 2003).

Issues to consider arising from the Study Tour

- ***Can we grade our Mission Statement?***

- 1) Does it contain measurable objectives?
- 2) Does it differentiate the institution from other universities?
- 3) Does it stretch beyond current attainment?
- 4) Does it meet key stakeholders expectations?
- 5) Does it excite and inspire?²
- 6) Do our institutional values impact what we do?

Inconsistency between mission and practice is common in all universities. What about us? (See Russell Ackoff on his inability to make sense of how universities functioned in light of his understanding of their mission.)

- ***Silo Organisation versus Deming Organisation – What type of Organisation is yours?***

Whom does the institution serve?

- 1) Who are the customers or end-users?
- 2) Do we design processes to optimise outcomes for the end-user?
- 3) Do we evaluate process effectiveness in terms of benefit to the end-user?

How is leadership understood and practiced?

- 4) Supervision that focuses on control, or motivation of people.
- 5) Leadership that seeks to remove barriers in the work circumstance that prevent individuals and teams from taking pride in their work.

How does your culture value efforts to increase understanding of root causes and results?

- ***How effectively do you measure yourself?***

- 1) Do we understand our current KPIs?
- 2) What other KPIs do we introduce?
- 3) What is the relationship between QMS and Strategic KPIs?
- 4) What can we adopt from Appendices 3, 4, and 5?

² Adapted from Ackoff's list of desirable characteristics of a mission statement (Ackoff, 1986, pp. 39-41).

For those under the NZQA Audit Department the audit process is further elongated. Having established quality, organisations should be provided with a ten year cycle, not a three year cycle. To achieve this audit processes need to be looked at to identify those which can be reported on, on a longer cycle. These are primarily the organisational issues and hence are provided with accreditation with NZQA organisationally across a five to ten year cycle.

On the other hand, within this process, programme information needs to be reported on annually, and currently TEC is undertaking this role in terms of programme viability and programme outcomes.

Agencies need to lengthen the cycle.

<I need help with the next two paragraphs please>

Serious work needs to be undertaken to establish key performance indicators that measure performance accurately. This is the work that is currently being undertaken within the Profiles documentation but my recommendation is that this is taken seriously as to its real need within each organisation. This is at the level of "Dashboard Indicators" as well as financial viability factors, which provide a pattern of seaworthiness. This task is imperative.

We take seriously the fact that Quality is more than numbers and we continue to enhance our peer processes of quality engagement, working towards the processes of effectiveness. This is a pattern we have started and we dare not lose it.

Conclusion

In conclusion, the range of approaches in how QMS is done is as wide as providers themselves. The majority admits QMS has been a low priority in the past but now is becoming an issue that all admitted needed to be addressed. BCNZ, I believe, has passed through this development point.

Further, the culture of inquiry for some lends itself to wanting to improve so the implication of QMS processes is already part of an institutional culture in many of the providers. Furthermore, the move towards clearly stating one's goals and mission upon which institutional KPIs can be generated is becoming a point where most providers are at. However the journey of one provider who has pioneered these processes and benefit to tertiary education provides a very sound set of experiences and exemplars that we can mirror.

In general, providers in Australia and New Zealand who are also on a journey to be able to demonstrate effectiveness and embark on improvement can be encouraged that providers in USA and UK are also grappling with the same issues and the journey of the one pioneer provider gives a positive way forward for all providers.

Specifically, many New Zealand providers are well down this journey, however, it needs to maintain a balance between data and effectiveness, remembering that quality is more than numbers.

For many the deeper challenge may be to do with the integrity of its mission, with its relevance to its operation. To be able to measure our mission and its outworking will be a true measure of our quality.

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Appendix 1 Quality Management Survey Results Summary

1. **Who accredits your theological college?**
- | | |
|--------------------------------|--------------------------|
| <input type="text" value="3"/> | A Government agency |
| <input type="text" value="3"/> | A Private agency |
| <input type="text" value="3"/> | Self monitoring (sector) |
| <input type="text"/> | No accreditation |
2. **What systems are in place to demonstrate that you do what you say you do?**
(please include copies of examples to Bruce by email)
- | | |
|--------------------------------|--------------------------------------|
| <input type="text" value="4"/> | Self monitoring |
| <input type="text" value="3"/> | Reporting to a Board |
| <input type="text" value="1"/> | Peer Reviews |
| <input type="text" value="5"/> | External audit to accreditation body |
3. **Significance of Quality Management Systems within the organisation:**
- | | |
|--------------------------------|--------------------|
| <input type="text"/> | 1 Very significant |
| <input type="text" value="4"/> | 2 |
| <input type="text" value="1"/> | 3 |
| <input type="text" value="4"/> | 4 |
| <input type="text"/> | 5 Not significant |
4. **Do you have a QMS policy statement?**
- | | |
|--------------------------------|-----|
| <input type="text" value="3"/> | Yes |
| <input type="text" value="6"/> | No |
5. **Do you utilise Key Performance Indicators (KPI) within your QMS?**
- | | |
|--------------------------------|-----|
| <input type="text" value="3"/> | Yes |
| <input type="text" value="6"/> | No |
6. **Are your KPIs benchmarked?**
- | | |
|--------------------------------|------------|
| <input type="text" value="2"/> | Yes |
| <input type="text" value="7"/> | No (6 N/A) |

Appendix 2 Quality Management Systems Interview Questions

QUALITY MANAGEMENT SYSTEMS

Interview Questions

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Bible College of New Zealand

The interview should take no longer than one hour.

1. Review the pre-visit survey form.
2. Discuss openly the role of Quality Management Systems within the Institution.
3. Request copies of
 - QMS Policy
 - QMS Procedures
 - QMS Documentation
 - QMS Reports
4. What Key Performance Indicators are utilised in the system?
5. Key Performance Indicators benchmarking – internationally.

Appendix 3 Dashboard Indicators

Category	KPI	Description
Learning	1	Students are generally satisfied with instruction in their major field (scores significantly higher than a sample of private postsecondary institutions).
Learning	2a	Institutional scores on MFTs vary widely year-to-year by department.
Learning	2b	Students generally obtain average scores on standardized achievement tests.
Learning	2c	Students generally perform well on professional licensing examinations.
Learning	3	As a university, the 2-year average number of graduates is 98% of the 5-year average number of graduates.
Enrolling	4	84% of entering freshmen returned to Samford in 2001 fall.
Enrolling	5	55% of students graduate within 4 years. 64% of students graduate within 5 years. 68% of students graduate within 6 years.
Enrolling	6	In the Fall of 2001, 88% of the undergraduate applicants were admitted to the university.
Enrolling	7	Over 80% of students originate from Alabama, Florida, Georgia and Tennessee.
Living	8	Students are generally satisfied with services provided by the university. (On 37/42 measures on the 99-00 ACT Student Opinion Survey, Samford scores higher than a representative sample of other private postsecondary institutions).
Funding	9	Including men's and women's athletics, 14.6% of operating funds go towards funding student scholarships and fellowships.
Funding	10	10.3% of operating funds go toward the operations and maintenance of the physical plant.
Funding	11	The endowment yield was -7.3% for the 2001 fiscal year.
Funding	12	The sum of Instructional, Academic Support and Library Expenses is 52.8% of expenses.
Funding	13	The sum of Instruction, Academic Support and Library expenses is 104.1% of Samford's net tuition and fees.
Marketing	14	Samford University has an Alumni Giving Rate of 16%.

Source: Samford University (2001).

Office of President, Samford University
 Unpublished paper
 Birmingham
 Alabama
 USA

Appendix 4 Financial Viability Factors

Market Demand Ratios

- 1 **Total Enrollment- FTE** (fall undergraduate & graduate)
- 2 **Undergraduate enrollment- FTE**
- 3 **Graduate/professional enrollment- FTE**
(Planned drop for Law beg 2000 from 650 to 500)
- 4 **Selectivity ratio- freshman class (%)**
(Measures student demand [# of acceptances divided by # of applicants])
- 5 **Matriculation ratio- freshman class (%)**
(Measures student demand [#enrolled (matriculants) divided by # acceptances])
- 6 **SAT scores combined- freshman class**
- 7 **ACT scores combined- freshman class**
- 8 **Educational Expenses per FTE student (\$)**
[Total E&G expense(Inst, Resch, AccSupp, PubSvc, Lib, Std Svc, IntSupp, Plnt) divided by FTE students]
- a **Instructional Expenses per FTE student**
[Total instructional expense divided by FTE students]
- 9 **Institutional tuition discount (%)**
[unfunded + funded university scholarships divided by gross tuition and fees]
 - a Unfunded scholarship as a percentage of tuition
 - b **Dashboard Indicator** [unfunded + funded university scholarships / unrestricted expense]
[All institutionally based scholarship costs as a % of all other operating costs]
 - c Unfunded scholarship awards (excludes endowed or gift accounts)
Funded scholarship awards (not including federal entitlements)
Total scholarship awards
 - d Percent unfunded scholarships
Percent funded scholarships
- 10 **Net tuition per FTE (\$000)** (evaluate trend, monitors discounting)

Tuition and fees: undergraduate
Room and board: undergraduate
- 11 **Total tuition, fees, room & board- undergraduate**
- 12 **Tuition, fees, room & board- undergraduate- trend (% increase)**

Tuition and fees: graduate
Room and board: graduate
- 13 **Total tuition, fees, room and board- graduate**
Tuition- graduate- trend (% increase)

Consumer Price Index

Capital Ratios

- 14 **Unrestricted financial resources-to-direct debt (x:1)**
[Unrest. net assets minus net investment in plant divided by outstanding debt]

- 15 **Maximum debt service (\$000)** (N1)
- 16 **Year maximum debt service is reached**
 (N1) Does not include affects of 1992 refinancing June 2001
- a **Total direct debt** [excluding annuity obligations] (N1)
- b **Actual debt service to operations (%)** (N2)
 [interest and principal debt payments divided by total expense and losses]
 (N2) Factor skewed in 2001 from large investment loss
- 17 **Age of Plant (X years)**
 [Accumulated depreciation divided by depreciation expense]
- 18 **Bond rating**
- Operating Ratios**
- 19 **Contribution Ratios (%)**
 Tuition & fees (gross)
- Tuition & fees (net)
 Contracts and exchange transactions
 Investment income (including gains)
 Auxiliary enterprises
 Other sources
 Sub-total non-gift revenue
 Contributions from Alabama Baptists
 Assets released from restrictions (accumulated gifts)
 Other contributions
 Total Revenues
 (NOTE: SU's numbers include all groupings- Unrest, Temp, Perm)
 (NOTE: Moody's uses an adjusted revenue #, applying 4.5% spending policy on beg bal)
 (NOTE: For more meaningful trend, use stable revenue as % of total stable revenue)
- 20 **Free Expendable resources-to-operations (X years)**
Expendable resources-to-operations (X years) (Deviation)
 [Unrest. net assets minus net plant plus temp net assets minus temp not for operations]
 (NOTE: Change in accounting practice 1997-98)
- (NOTE: Moody's numerated does not properly exclude non-operational funds, nor scholarship accumulations that are not included in the expense amount for operations.)
- 21 **Available operating surplus (\$000)**
- 22 **Return on available operating surplus (%)**
- 23 **Operating surplus (\$000) (Deviation = Net Unrest/Spon/Rest revenues for SU)**
 [Total revenues for unrest & spon/rest current funds minus expenses for same]
 (NOTE: Used unrest & spon/rest revenue and expense from FBM061 report)
Unrestricted operating surplus (NOTE: Used unrest revenue and expense from FBM061 report)
- 24 **Operating budget and actual revenue and expense**
- a Budgeted Revenue (Note budget includes a full 6% draw on unrest endowment, this amount ranging over the years from \$1.5-\$3M is usually not drawn in its entirety)
 Budgeted Expense
- b Actual Revenue
 Actual Expense
- 25 **Actual operating margin (%) (Deviation = See above)** (-)
 [operating surplus divided by total operating revenues]
- 26 **Return on net assets (%)** (-)
 [increase in net assets divided by average net assets (beg/end of yr)]

- 27 Level of commitment**
- a** Plant-Operations/maintenance plant- operating expense (%) (N3)
 - b** Teaching- Instruction, Academic Supp, Library- operating expense (%) (N3)
 [Total expense for expense category (audit) divided by Total Expense and Loss, adding scholarships back to Total Expense and Loss]
 (N3) For 2001 allocated depreciation to expenditure categories
 - c Dashboard Indicator-** Plant- expenditure level (N3)
 - d Dashboard Indicator-** Instruction, Academic Supp, Library- expense level (N3)
 [Expense for category / unrestricted expenses w/o scholarships
 [Category cost as compared to other operating costs excluding tuition]
 - e Dashboard Indicator-** Instruction, Academic Supp, Library- as % of net tuition
 [Expense for category / unrestricted expenses w/o scholarships]
- Other Factors**
- 28 Endowment- market value (\$000)**
 - 29 Endowment- total return (%)**
 - 30 Endowment- spending policy / rate**
 - 31 Endowment-actual / applied spending rate** (-)

Source: Samford University (2003).

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 Unpublished paper
 Birmingham
 Alabama
 USA

Appendix 5 Seaworthiness: Ten Critical Measures

- 1. Total Financial Resources per Student FTE** [*Total Net Assets minus Net Investment in Plant, divided by Student FTE*]
- 2. Expendable Financial Resources to Debt** [*Total Unrestricted Net Assets, plus Temporarily Restricted Net Assets, minus Net Investment in Plant, divided by Outstanding Debt*]
- 3. Expendable Financial Resources to Operations** [*Total Unrestricted Net Assets, plus Temporarily Restricted Net Assets, minus Net Investment in Plant, divided by Total Expenditures*]
- 4. Average Peak Debt Service Coverage** [*A 3-year Average of Total Operating Surplus, plus Interest Expense, plus Depreciation Expense, divided by Maximum Annual Debt Service*]
- 5. Applicants to Admits** [*Selectivity/Matriculation Ratios*]
- 6. Tuition Rate Changes** *tracked over 5 years*
- 7. Enrollments** *tracked over 5 years*
- 8. Retention Rate** [*Freshman to Sophomore*]
- 9. Graduation Rate** [*4-, 5- and 6-year*]
- 10. Instructional Expenditures per FTE Student**

Source: Corts and Eck (2002).

Appendix 6 Management Philosophy for Samford University

1. We intend to be valued by our constituency and respected by the general public.
 - We want to be a university of which students, alumni, trustees, foundations, friends, and our community are proud.
 - We want to be among the two or three institutions people most readily think of when speaking of a good "Christian University" or "a Baptist University."
 - We want to be a university respected and appreciated worldwide for its beautiful campus, solid academic program, and strong Christian commitment.
2. We intend to be honest in all dealings.
 - We will not make exaggerative claims to quality and excellence.
 - We will not speak untruthfully to one another, to the press, or to constituents.
 - We will pay bills, honour commitments, keep our word, protect our honour.
 - We will abide by local, state, and federal laws and regulations within our chartered purpose, and within the bounds of conscience.
3. We intend to be resourceful.
 - We will attract capable personnel and ask them to assume heavy workloads in exchange for a fair and competitive salary and benefits.
 - We will avoid interest-demanding indebtedness for current operations.
 - We will purchase the best value rather than lowest-price with the long-range prospect in view, choosing that which is "satisfactorily adequate" rather than what is elegant.
 - We will balance budgets, control costs, limit the number of personnel, and maintain an operating cost advantage that will allow a price advantage over similar institutions.
4. We intend to be a better-than-average educational institution.
 - Discounting self-adulation, Samford University intends to be, on the basis of measurable standards, more effective and more successful than the average institution of its size and type.
 - We will try the new and different, readily discard what doesn't work effectively, and enhance that which is effective in our quest for quality.
 - We will cultivate "world awareness" as a distinctive aspect of university life, work, and reputation.
 - Without apology, and as an aspect of its uniqueness, the University itself will live by Christian values and will articulate in a winsome manner its Christian commitment to all publics
5. We intend to be a community of caring persons.
 - We will not discriminate.
 - We will share our faith and beliefs because they are crucial to persons.
 - We will have time and respect for one another, and for the integrity of one another.
 - We will maintain an active program of student activities and religious activities so as to impact most effectively the lives and lifestyles of students.
6. We intend to market aggressively the University to local, national, and worldwide publics.
 - We will encourage persons in the employ of the University to see the marketing consequences of their work, and of their work when done well.
 - We will inspire loyalty among Baptists, alumni, friends, students, and other close publics, a loyalty which should find expression in contributions, support for recruitment of the quantity and quality of students, and in general approbation.
 - We will be pleasantly responsive to inquiries and to opportunities.
 - We will assure that publications and public contacts reflect the calibre of institution Samford University seeks to be.