Managing Quality in an ODL Institution:
the Experience of Open University Malaysia

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International Seminar on Open and Distance Learning for Sustainable Development
Jakarta, Indonesia
2-3 September 2004

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ABSTRACT

One of the primary objectives of quality management at the Open University Malaysia (OUM) is to ensure that the organization's resources are optimally focused on both the internal and external customers' needs. Quality management efforts are directed at students, as well as other stakeholders, including the internal and external tutors, administrative staff, module writers, Subject Matter Experts (SMEs), and the off-campus learning centres administrators. At OUM, the quality management activities are closely integrated with the institutional research activities. Thus the former which are crucial in ensuring the success of distance education programs are carefully coordinated with the latter that include conducting ongoing needs assessments (formal and informal). The Centre for Quality Management and Research & Innovation (CQMRI) functions as a catalyst and facilitator of all OUM's quality initiatives. The Centre's main task is in the operationalisation of a suitable quality management system to improve and monitors OUM's key performance areas namely; the (i) Corporate Culture, (ii) Products/Learning Courseware, (iii) Assessment Processes, (iv) Learner Support Services and (v) Graduate Competencies. In short, at OUM, delivering quality education is about ensuring that the total learning experience in the ODL mode is at par with acceptable international standards. The other major challenge is in the unforgiving competitiveness of private education, thus OUM has chosen the "quality path" as the only way for doing business and staying in business.

Keywords: private university, open and distance learning (ODL), working adults, quality, learning pedagogy, performance.

1.0 Introduction

The Open University Malaysia (OUM) started operations on the August, 2000 as the seventh private university with a pioneer batch of 400 students. It is currently in its fourth year of operation with 25,000 students enrolled to the university's 17 programs. OUM is a private university established by a consortium of eleven public universities, thus making it unique especially in the way it is managed and funded. Unlike its stakeholders, OUM is also an open and distance learning (ODL) institution – the first and the only one in Malaysia to date. The university provides renewed opportunity to hundred of thousands of working adults. Those among the latter wishing to upgrade and re-skill themselves without having to leave their current jobs either for an emerging skill or for an academic

degree will indeed find OUM as a logical choice. Additionally, the university's adoption of blended learning pedagogy and ODL learning and teaching philosophy provide a second avenue for the public to gain quality tertiary and affordable lifelong education. However, an open and distance learning university is still relatively a new phenomenon to the Malaysian education scene. The University's programs and graduates are therefore expected to be constantly open to scrutiny. An example of the latter is the concerns about the university's ability to match the more established public university both in terms of academic programmes and graduates' quality.

However, an open and distance learning university is still relatively a new phenomenon to the Malaysian education scene. The University's programs and graduates are therefore expected to be constantly open to scrutiny. An example of the latter is the concerns about the university's ability to match the more established public university both in terms of academic programmes and graduates' quality. Notably, OUM's quality performance to date has been reassured by two recent major developments. The first was the university's success in signing up thousands students in a relatively short space of time. The second, was the recent 2004 quality survey report [Jung, 2004] presented to the UNESCO's conference on "Mega-Universities and Selected Distance Teaching Institutions;" where on each of the eight major quality parameters surveyed OUM was prominently listed with the major world's mega ODL institutions. In short, foremost at OUM, quality education is about delivering the total learning experience via ODL mode and ensuring that it is within acceptable standards. And secondly, quality to OUM is about doing business and staying in the competitive business of higher education.

2.0 An Ideal Experiment

The idealism of "education for all" that implies education is not a privilege of a few is not new. However, the operationalization of the concept is another matter. Not until the establishment of the Open University Malaysia (OUM) can anyone claim, at least in Malaysia, that the concept is closer to realization. Indeed, to date no university in the country has the flexibility of OUM in terms of programs delivery and support services [New Straits Times, 2004].

It is widely accepted that delivering education to all, particularly at a tertiary level or in a technical field, in the conventional mode is a very costly business. Providing traditional campus based education to all with rigid schedules and finite teaching resources is simply prohibitive especially for most governments, even to the rich countries of the North. It is indeed owing to the cost factor that many countries found solution in the open and distance learning. The latter have been accepted by many authorities as the most viable alternative to delivering education to the maximum number of learners without comprising quality. These seem to be the case in the UK, Canada, South Korea, India, Hong Kong and Thailand (Table 1).

Institution	Years of Operation	Current Enrolment
Open University UK	28	200,000
Open University Hong Kong	10	26,000
Open Polytechnic New Zealand	50	200,000
Indira Ghandi National Open University, India	25	600,000
Open University Malaysia	4	25,000

Table 1: Enrolment in Open Universities of Selected Countries

The 8th Malaysia Plan commits the nation to the task of preparing for the emerging k-economy [Government of Malaysia, 2001]. The backbone of the plan is human capacity building, particularly in equipping the most productive sectors of the population with the necessary skills and knowledge. However, the current enrolment in local tertiary education among Malaysian youths of ages between 17 to 24 years is about 25%: a figure that is still relatively low by international standards. A considerable number, estimated at more than 25%, seeks higher education abroad particularly in the UK, Australia, and the US. To address the shortfall, the government has reportedly set by 2005 a conservative target of 30% of the youths receiving higher education at local universities.

The wave of new economic activities will inevitably cause skills and knowledge learned in the last century to be obsolete. This implies that the workforce trained for the "old economy" will need to be retrained and re-educated urgently with the relevant skills and new knowledge. The current percentage of the Malaysian workforce receiving tertiary education is 13.9% (Table 2), is still relatively unimpressive, a figure that the nation is in urgent need to improve in the next couple of years.

Level of Education	%
Primary	27.4
Secondary	58.7
Tertiary	13.9

Table 2: Level of education of the Malaysian workforce

It seems obvious that current conventional higher education infrastructure in the country will not be able to cope fast enough with such a demand. The answer then lies in a higher education institution that is flexible enough to accommodate a mega number of potential

learners, unbounded by geographical and resource constrains, employing a flexible pedagogy that suits all levels of learners particularly the adult, leveraging on existing infrastructures and resources, and will not cost the government as well as the public a bomb. At OUM, realizing those demands is the core business of the university.

3. Serving Quality Education

OUM success has been attributed by industry watchers to the innovative model that the university's founders adopted. At the heart of the model is the idea of an open and distance learning (ODL) private university owned by a consortium of 11 Public Universities. The other is the idea of leveraging on the resources of the stakeholder universities for most of the university's academic operations [Abdullah Sanusi Ahmad, 2001]. An additional advantage of OUM is that as an ODL institution the university enjoys a level of freedom in the choice of pedagogy and learning management system. The other contributing success factor is in the adoption of the blended pedagogy (online learning, face to face tutorials, and self managed learning). The latter injects flexibility in the deliveries of academic programs unattainable by conventional modes. The blended pedagogy allows learners to have flexibility in learning duration, as well as the choice of going for face to face tutorial or total personalized self managed learning. The 31 learning centers distributed throughout the country further enable learners the flexibility for registration, electing subjects, choice of classes, and exams. The centres also facilitate the delivery of new courses to learners, including bridging and specialized courses, as well as any enhancement of existing programs. Another flexibility accrued from such a system is that learner has the choice of alternative learning exits routes (e.g. Certificate, Diploma, or Degrees): a benefit that is seldom seen in the closed traditional university system.

OUM innovative model is best seen in its functional and operational structure which is a learner-centered as opposed to the conventional faculty-centered model of the public university. In terms of curriculum offerings, this model is translated as catering more to students need to learn rather than simply what faculties wish to teach. OUM has established distributed learning centers where facilities for teaching and learning are available closest and most convenient to the learners. An important element in the latter is the small tutorial classes conducted fortnightly by experienced tutors. The classes are supplemented by printed modules, customized textbooks, e-books and multimedia CD-ROMs. In additional to that is the one-stop comprehensive student service centre known as the Learner Services Centre (LSC), where students are able to receive advice on registry matters and related academic problems. The centre is manned by experience staff and its services are also accessible to students via toll free line.

OUM adopts a policy of "open sourcing" of knowledge. Traditionally, the main source of knowledge for tertiary education is the universities. However, it is widely accepted now that specialized knowledge is no longer the monopoly of the latter. Public and private

research institutions are the other source of new knowledge. Knowledge accrued via research activities by these institutions need to be propagated and utilized by the society. One way of achieving this is in the joint development of study modules with the industry sectors. In this synergistic arrangement, the university will provide the theoretical contents while the industry complemented with their practical experience. Through such arrangements rapid revision of courseware, enhancement of modules and industrial placements can be effectively executed with maximum benefits to all parties.

Optimizing resources available within the public universities is central to the operating philosophy of the OUM. As indicated earlier since the stakeholders are the public universities, OUM is in a good position to leverage both on the physical and intellectual resources of its owners. Thus, students registered with OUM can use libraries of the public universities. Additionally, students have accessed to experienced tutors and subject matter experts (SMEs) recruited among the academics and professors from the public universities. This is facilitated by a number of OUM's students support centres located in the public university campuses. The initial idea of just repackaging public universities programs however was later abandoned in favor of programs specially developed for OUM. The advantage accrued from the latter strategy is that specialized programs well suited to OUM learners can be developed with close cooperation from the subject matter experts, modules writer, academic moderators, tutors and consultants sourced from the public universities. By tapping on such expertise, academic programs of OUM can quickly attain the level of academic standard set by the regulators as well as they are tailor-made for learners.

The expected academic standard is achieved by adopting best practices in the management of OUM from the beginning. This is achieved by benchmarking visits to renowned open universities throughout the world. Through these visits, OUM have been able to learn from international open universities on how they operate and organize themselves. An important lesson learned from such visit is the need to identify the appropriate technology platforms for the delivery of courses particularly in the framework of current infostructure and infrastructure of the nation. By using suitable technology platforms, the process of learning will be more cost effective and far likely to be successful. Thus, it has been the policy of OUM to make use of the right technology to benefit maximally the learning process, and not to be driven solely by technology or by the vendor's agenda.

Perhaps the most important lessons gleaned from such visits include the need to offer products and programs that are attractive to the market. Products that have the following characteristics:

- Flexible entry
- Affordable courses
- Flexible learning mode
- Flexible exit routes
- Distributed service centres

4. A Quality Model to Serve

The OUM's ODL model poses a number of challenges. The first challenge [Abdullah Sanusi Ahmad, 2001] is to ensure that the concept of OUM is accepted by the public, particularly with respect to the perception of quality of education and programs. Although the acceptance to the concept of open and distance education is there, much work still need to be done in order to ensure full acceptance by the public. By and large, distance education is still considered by many as suitable learning mode only for adults. Young school leavers are considered as not being attracted to study through distance education, as it does not provide a "wholesome" learning atmosphere of a traditional university. Thus, the challenge is to change the public view of distance education as an acceptable alternative way of learning experience.

The second challenge is in the public perception that considers private higher education as a shade of inferior to that of public education [Abdullah Sanusi Ahmad, 2001].   It is important for OUM to dispel this misconception about private education. In the actual fact, with the setting up of Lembaga Akreditasi Negara or LAN (National Accreditation Board), the quality of education in these private institutions is similar, if not better, to that of public universities. The Ministry of Education, through Department of Private Education is constantly monitoring the facilities and standard of every private institution to ensure that students are not short-changed when they enrolled in these institutions.

The third challenge is to find academics and support staffs that are not only familiar but more so they are very much committed to open and distance learning [Abdullah Sanusi Ahmad, 2002]. The latter is crucial since facilitating learning through distance education requires a lot of effort, expertise and patience. Learning materials must be "pedagogically fit" to assist effective students learning. Learning modules for distance education need to be self-contained, in most cases, enabling independent learning with little need for conventional tutoring intervention. Additionally, the module has to be fully enriched with interactive and dynamic information, including links to resources available in the web. Thus the preparation of a study module involves the participation of many talents. Module writers are engaged to prepare materials. These materials have to be moderated by subject matter experts. The moderated material will have to be analyzed and edited by instructional designers, before they are ready for a full module development. Finally, the completed module will have to be field tested to ensure suitability and quality.

The fourth challenge is to provide a wide spectrum of courses that meet the needs of learners. At the moment, most of distance learning programs are confined to providing programs in the arts and the soft sciences namely in Business Management, Information Technology and Social Sciences. Few ODL institutions are offering courses in Science, Medicine and Engineering mostly owing to technical and resource constraints. However, OUM has successfully overcome the latter enabling the offering of those programs in the physical sciences and engineering since the second year of its establishment.

5. The Quality Challenge

At OUM, the challenges described above is considered as subsumed under the challenge of delivering holistic quality education. OUM is committed to the latter in terms of ensuring that the total learning experience will be at par with acceptable international standards [Star, 2004]. The other major reason is because in the very competitive private education industry, the "quality path" is the only way for OUM to do business and to stay in business. The Centre for Quality Management and Research & Innovation (CQMRI) is seen as a catalyst and facilitator of all OUM's quality initiatives. Among other things, the centre has adopted a strategy to commission a total quality management system, including seeking ISO 9001:2000 certification for some of the university services.

One of the major tasks of the centre is in the operationalisation of a suitable quality management system to improve and monitors OUM's key performance areas that include:

- Corporate Culture: Policies; vision and mission statements, mottos, levels of commitment and attitudes of staffs;
- Products: Learning courseware (e.g. printed modules, CD-ROM, e-learning platform as well as e-learning course wares)
- Assessments: Examination processes, completion rates, performance of competencies or practical skills;
- Services: Learner Support services such as registration and advisory services, tutoring and counseling, feedback and guidance in learning (assignments), support for learner's progress, career advice, management of learning centers; and
- Support systems: Delivery systems, record keeping, scheduling, quality assurance procedures.
- Graduate Competencies: learning skills, communication skills, professional skills, and entrepreneurial skills.

At the heart of the quality effort is to improve and monitor quality in curriculum and courseware development. Curriculum and courseware development are the core activities and products that shaped OUM's academic programs as well as in meeting market demands. The specific task of overseeing courseware development is assigned to the Centre for Instructional Design and Technology (CIDT). The centre, with close cooperation of the faculties, is responsible both for producing as well as ensuring quality and learner-friendliness of the courseware. The latter is achieved by regular field tests and benchmarking exercises against the best in education industry.

In order to further enhance and maintain the highest standards, the academic and courseware development processes are subjected to a very rigorous system of procedures [Chng et al, 2003]. Before any academic program is offered, a market survey is launched. A team comprising deans of faculties, lecturers and experts from professional bodies is set up to formulate the first draft of the curriculum. The draft curriculum is initially presented to the Board of Studies comprising of experts from academia, government and the

industry for comments. The curriculum is then subjected to the scrutiny of the Academic Board of the university, comprising of senior faculty members and academic stakeholders. Finally, it is presented to the Private Education Department and the National Accreditation Board at the Ministry of Education for the approval prior to the public offerings.

The maintenance of quality in courseware preparation is an important element of the university's quality control initiatives. However, it is the actual presentation to the individual learner (involving tutors, tutees and the process of tutoring) which constitutes one of the most important elements in OUM's blended pedagogy. A third of the learning process at OUM involves face to face tutoring, followed another two-third involving online learning and self-managed learning respectively. All these methods of learning rely on courseware, and indeed the quality of the learning depends heavily on the quality of courseware.

The other important learning materials that is crucial to the success of the blended pedagogy are the Web courseware which is a web based tutorial enhancement and web focused learning. At the heart of the latter is the locally developed learning management system known as MyLMS. Through the mediation of MyLMS, learners are able to control their learning at their own pace and convenience. MyLMS is comprehensively equiped with e-learning tools enablers such as e-library, e-tutorial, e-mail, chat, bulletin board, learning resources as well as course information. The university's digital library and electronic data bases, as well as public universities library are also accessible via the MyLMS.

Currently OUM employs 1,200 tutors from all over the country and tutorial sessions are conducted at 31 OUM learning centers serving students throughout the country. Only suitable and qualified academics and practitioners from the industry are short listed and appointed as OUM's tutor. Taking cognizance that our tutors come from diverse backgrounds, tutors are trained in the "art of ODL tutoring," including in academic counseling techniques. They are also equipped with "tutors' kit" of supporting educational materials and tools. The training and the kit ensure some form of standardization in the process of tutoring and face to face delivery of materials.

Periodic assessments of tutor performance are carried out by OUM academic staff, as well as feedback from learners and Learning Centre administrators. Tutors and learners also regularly provide feedbacks on the learning materials. The latter is constantly reviewed and updated based on such feedbacks. In order to ensure that quality learning can takes place, face to face tutorial classes are kept small, 15-20 learners per group. In fact the ratio of tutors to learners is kept at about 1:16 level that is comparable to international standards (Table 3).

HEI	Academic Staff	Tutors	Students	Ratio Tutor: Students	Ratio Academic Staff: Students
UK OU	1,159	7,758	227,082	1:29	1:196
OU HK	91	1098	25,115	1:23	1:275
ST OU	380	554	193,381	1:349	1:508
TOP NZ	180	300	29,385	1:98	1:163
U Terbuka, Indonesia	789	NA	353,000	1:16	1:447
OU Malaysia	**43**	**1,200**	**19,770**	**1:16**	**1:440**
OU Malaysia (by end 2004)	*83*	*1,430*	*23,000*	*1:16*	*1:277*

Table 3: Comparative Ratio of Tutors and Students of selected major Open Universities

6. Research for Quality

In addition to the quality initiatives, the Centre for Quality Management and Research & Innovation (CQMRI) is also responsible for initiating and coordinating, particularly, institutional research. Notably, the Centre, with the cooperation of faculty members as well as other centres of the university, have conducted series of studies to gauge the effectiveness and level of quality measures in OUM. These studies include the "effectiveness of online learning among OUM students," "effectiveness of curriculum," "students' performance," "tutors' performance," "students retention and attrition rates," "e-learning readiness of learners and tutors" as well as a comprehensive study on the "Total Service Quality of OUM." The latter is an ongoing study and the result is expected to be available by the end the year. A limited but focused study entitled *Learners' priority-satisfaction analysis as a diagnostic tool in managing ODL at OUM* [Ramli et al, 2004] has been completed recently. The output of the study has been used as an indicator of quality achieved by the university, particularly by measuring the degree of satisfaction among learners on the spectrum of services and products offered. For greater reliability and accuracy, besides using learners' satisfaction scores, the study also complemented the latter by tracing the context of the learners' priorities or expectations. The study employed the survey method using questionnaires as the major tool. A cohort of students namely the "Teachers- Ministry of Education" group representing about 50% of the total population of students was identified and surveyed.

About 5,000 survey questionnaires were distributed to the sample respondents [Ramli et al, 2004]. The questionnaire contains three major parts, namely; Part 1: Learner Profile, Part 2: Priority Setting and Part 3: Level of satisfaction. The Learner Profile section of the first part includes questions on: Gender, Age, Ethnic group, Marital status, Job sector, Highest qualifications at entry point, Courses enrolled, Method of surfing the Internet, reason for pursuing tertiary education, and for choosing OUM. Respondents were also asked about how satisfied they are with major OUM's Services and Facilities. The latter include the Learning Centers, Learner Services, Digital and Physical Library Facilities, Program of Study, Learning Materials, Fees Structure, Tutors, Administrators, and online

resources as well as the Learning Management System (myLMS). In the Part 2 of the questionnaire, respondents were asked to rank each service/facility based on their preference. The ranking scale was open-ended, meaning that learners may rank them from number 1 to any number. The number 1 indicating the highest ranking or highest importance while the bigger the number given to a service or facility, the lower will be the importance of that service or facility to the learner. In the last part (Part 3) respondents were asked to indicate the level of satisfaction for each service or facility using the number 1 through 4, again with 1 indicating the highest level of satisfaction and 4 the lowest.

The outcome of the survey [Ramli et al, 2004] indicated high satisfaction scores attained for Tutors, Administrators, and Learning Centers, suggesting that students are satisfied with all threes and they preferred face-to-face interactions. While lower satisfaction scores are registered for online services particularly myLMS, digital library as well as tutors' online interactions and web forum. This is perhaps an indicator that OUM may need to improve its online support services, which include the myLMS and the digital library.

7. Conclusion

One of the challenges of OUM is to assure stakeholders that its programs and graduates match the quality of the more established university. Its greatest challenge however is to deliver quality service and programs to all students and clients. The Centre for Quality Management and Research & Innovation (CQMRI) is a major responsibility centre for all quality initiatives of the university. One of the crucial tasks of the centre is to set up a suitable quality management system to improve and monitor OUM products, facilities and services. The centre is also responsible for institutional research initiatives which include study to measure the quality of the university programs and services. Both quality assurance and institutional research activities are therefore coordinated and integrated. An example of the latter is a study that confirms the level of satisfaction among learners on OUM services and facilities are acceptably high. The study also found that there is a strong correlation between priority set by learners and their satisfaction with the services rendered and facilities provided. Thus, indicating that OUM has been getting it right by providing crucial services and programs that are most expected by its customers, the majority of learners that have so far signed up to its courses. Perhaps, the latter is a reliable and ultimate indicator of the quality of OUM products and services is how the market has responded.

Arguably, OUM's quality performance to date has been reassured by the two major developments. The first was the university's success in signing up to twenty-five thousands students in less than four years, a relatively short space of time by any standard. The second, was the recent 2004 quality survey report [Jung, 2004] presented to the UNESCO's conference on "Mega-Universities and Selected Distance Teaching Institutions;" OUM came up fairly well on each of the eight major quality parameters surveyed. The latter include aspects related to QA unit, QA policies, QA methods, use of

QA feedbacks, QA areas and criteria, QA system for importing/exporting DE programmes, QA system for e-learning, and Link to national QA framework for DE. OUM was prominently listed with the world's eight mega universities and six other ODL institutions DE institutions.

In short, at OUM, delivering quality education is about ensuring that the total learning experience in the ODL mode is at par with acceptable international standards. The other major challenge is in the unforgiving competitiveness of private education, thus OUM has chosen the "quality path" as the only way for doing business and staying in business.

References

Abdullah Sanusi Ahmad, Tan Sri Dr. [2001]. "Development of Open University Malaysia (UNITEM): Vision and Challenges," Open University Malaysia, Kuala Lumpur.

Abdullah Sanusi Ahmad, Tan Sri Dr. [2002]. "How Open Learning paves the Way for Lifelong Learning" *Education Quarterly*, Issue No. 21, p.46.

Anwar Ali, [2004]. *Building learning communities through ICT: Bridging the digital divide using online learning*. Official Opening Address at the First COLLA Regional Workshop, Putrajaya, Malaysia, 28-29 June.

Atkinson, R., McBeath, C. and Meacham, D. (eds), [1991]. "Quality in Distance Education," *ASPESA Forum Papers*, ASPESA, Australia.

Chng L.P, Law W.K & Hamitha A.K.[2003]. "Enhancing the Effectiveness and Quality of Open and Distance Learning Print Based Modules," Open University Malaysia, Kuala Lumpur.

Lewis, J. J. Whitaker & J. Julian. [1995]. "Distance Education for the 21st Century: The Future of National and International Telecomputing Networks in Distance Education," in: Z.L., Berge & M.M.P., Collins (Eds.), *Computer Mediated Communication and the Online Classroom* (Vol. 3, pp. 13-30). Cresskill, New Jersey: Hampton Press, Inc.

New Straits Times [2004]. "New Approach at OUM," Education Fair 2004, p.6, Feb., 19.

Government of Malaysia. [2001]. *Rancangan Jangka Panjang Ketiga*

Jung, Insung [2004], "A Survey on Quality Assurance Systems in Mega-Universities and Selected Distance Teaching Institutions," a paper presented to *The Second Global Forum on International Quality Assurance, Accreditation and the Recognition of Qualifications on Widening Access to Quality Higher Education*, UNESCO, Paris, 28 – 29 June 2004.

Ramli B, Latifah A L, & A Razak H [2004]. *Learners' priority-satisfaction analysis as a diagnostic tool in managing ODL at OUM*. Open University Malaysia Institutional Research Report 2004, Kuala Lumpur.

Star [2004]. "Open University Stresses on Quality," *Education Guide*, p. 23,Sept. 18.