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Academia, Industry and Community Collaboration in Malaysia: Strategies and Opportunities for the Future

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Introduction

We live in times of greater accountability and this impacts on the field of higher education too. There is a greater demand from society at large to be able to see the returns of the expenditure invested in higher education; to see how higher education helps the community to gain both economically and socially. In this context, there is a strong need to work towards ensuring that higher education is relevant to the larger society out there which comprises community, industry, government agencies, professional associations and non-governmental organisations.

This is supported by OCED (1999: 9) which has stressed over time that universities need to be aware that, “the agenda has moved on from a desire to simply increase the general education of the population and the output of scientific research; ... (to a) greater concern to harness university education and research to specific economic and social objectives.” These initiatives can be worked on in collaboration with industry/NGOs/community through partnerships that mutually benefit both parties. (Wallis, 2005)

The relationship with these integral entities needs to underpin the core business of the university, that is, research, teaching, learning and service. This is to ensure they remain continuously relevant to the social and economic needs of the nation and community. Holland (2005: 3) explicates clearly the dynamics of these relationships by stressing that it is through “engagement forms of teaching and research, faculty connect their academic expertise to public purposes as a way of fulfilling the core mission of the academic institution.”

This paper aims to concretise the calls for higher education to work towards industry/community outreach by explicating the experience of a research university in Malaysia – Universiti Kebangsaan Malaysia (translated as the National University of Malaysia). This encompasses a discussion of the structural and delivery systems that have been set up to move these initiatives forward. These efforts are being worked and improved continually but this paper will share the planning and organization that has been done to date.

Structural and Delivery Systems that Direct and Support University-Industry/Community Partnerships

We begin by delineating the structural system that the Ministry of Higher Education and universities have set up to ensure that universities have an effective delivery system to reach out to industry and community.

On the 1st Sept 2007, the Ministry of Higher Education established a new senior management portfolio, that of Deputy Vice-Chancellor for industry and community engagement, for 4 research universities – Universiti Kebangsaan Malaysia, University Malaya, Universiti Sains Malaysia, Universiti Putra Malaysia - and an additional university – Universiti Teknologi Mara (UiTM). At Universiti Kebangsaan Malaysia, this portfolio is titled Deputy Vice-Chancellor (Industry and Community Partnerships).

This expands the number of Deputy Vice-Chancellor's posts at Universiti Kebangsaan Malaysia from three, which includes, research and innovation affairs, academic and international affairs and for student and alumni affairs, to four, to include Industry and Community Partnerships. All of these portfolios support the Vice-Chancellor (referred to as President in some contexts) of the university.

It is important to bear in mind that the Deputy Vice-Chancellor (Industry and Community Partnerships)'s role is service-oriented. In the process of developing partnership activities with industry and community, it serves to support the research, teaching, learning and service thrusts of the university. As these initiatives are carried out, there will naturally be an overlap with the portfolios of the other deputy vice-chancellors. Thus, it is very important for strong understanding and cooperation to exist between the various deputy vice-chancellors to ensure smooth and constructive engagement with industry and community takes place.

At Universiti Kebangsaan Malaysia (UKM), this Deputy Vice Chancellor's role is to develop, maintain and sustain the university as a leading player in the establishment of mutually beneficial partnerships between the university, industry and community. This will be carried out not only at the national levels but also through regional and global partnerships. This will be through systematic documentation of existing partnerships and planning for and implementing future collaborative ventures.

All of these efforts will be operationalised through outreach and partnership engagement where the university's intellectual capital and resources will be maximized in a relevant and compatible manner to advantage industry and community. Reciprocally, academics as well as students will benefit from the wealth of knowledge and experience of industry and community. All of these activities will be driven by the university's niche research areas such as sustainable development, climate change, nanotechnology and material science, multiculturalism, globalisation and self-identity, health technology and medicine amongst others. (Sharifah Hapsah, 2008: 23 – 28)

Granted the drive to reach out to industry and community is nothing new. University, industry and community liaison offices have existed in the public universities for many years. However, efforts to form partnerships with industry and community have largely been conducted on an ad hoc basis. Until the creation of this portfolio, there has not been a structured way of establishing relationships with the outside community. Linkages happen mostly through the actions of individual lecturers or through the industrial arm of the university.

The structure and system that has been set up at Universiti Kebangsaan Malaysia to support the industry and community engagement eco-system will be dealt with next.

At UKM, the portfolio of the Deputy Vice-Chancellor for Industry and Community Partnerships has three offices headed by three directors. These are the:

- i. Industry-Liaison Office
- ii. Office of University-Community Partnerships
- iii. The Chancellor's Foundation

These three offices are all service oriented and they have value only in so much as they are able to work at supporting the faculties and research institutes in promoting academic expertise and research and educational initiatives through collaborative partnerships with industry, NGOs and communities. Therefore it is crucial to plan clear and effective "delivery systems" to ensure that the offices work effectively at all levels – with the Deputy Vice-Chancellor and to serve the faculties/research institutes to work collaboratively with industry/community.

The Industry-Liaison Office

The scope of responsibility of this office is to oversee career development and student internship in industry / community, placement of academics in industry, working with faculty to invite corporate players on curriculum boards, promoting joint research and marketing of the potential commercialization of R&D.

Industry and Students

Our efforts in ensuring that university education is relevant and meets with the needs of industry and the community is tested by the quality of human capital developed by universities. The 9th Malaysia Plan and the Higher Education Strategic Plan both stress on the development of human capital. To quote the 9th Malaysia Plan, “human capital will be the key thrust in the Ninth Plan Period. Human capital development will be holistic; encompassing the acquisition of knowledge and skills or intellectual capital including science and technology (S&T) and entrepreneurial capabilities ...”

The Ministry of Higher Education has had numerous meetings with the industry and during these meetings, concerns have been expressed as to the qualities they need of graduates: for industry stakeholders, even more important than the hard-skills (mastery of the discipline particularly technical knowledge) are the soft-skills. They want graduates who are employable and not those who have to be retrained. Of course this is not to say that these graduates will not be trained at all when they work in industry. Organizations will provide training programmes for employed graduates to acculturate them to workplace values, culture, processes, systems and procedures. But the prospective employers would like these graduates to have the baseline soft-skills – the ability to communicate and the confidence to articulate viewpoints and have opinions, the ability to be pro-active and to plan and organize work demands. Overall, the aim is to reduce the on-the-job training requirements so that they can become effective and productive to their respective organizations much sooner than is usual for fresh graduates

Given this enormous responsibility, the issues that we should address are:

“How do we work out joint strategies to ensure that universities develop capacities for graduates to enable them to obtain the jobs that they are interested in and that they are employable and how do we ensure that these capacities are relevant and meet with the needs of industry?”

There are many methods and we shall explicate some of them in this paper.

One of the main objectives of this office is to establish close ties between the students and industry. This is concretized through career seminars and career fairs. One of the highlights of the career seminars is that industry players are invited to provide training courses for undergraduates in the areas of presentation skills, interview techniques, writing up effective resumes and others. The undergraduates greatly appreciate the industry input into these skills which are integral for their career development and for future employment opportunities. In addition, the career fairs provide integral opportunity for students to attend interviews with organizations on campus.

Another key method is that of workplace attachment / placement for undergraduates. This is referred to as internship or industrial placement.

After numerous discussions with industry stakeholders, the Ministry of Higher Education has increased the length of industry placement to 6 months. At Universiti Kebangsaan Malaysia, the Faculty of Engineering, the Faculty of Information Technology and the Faculty of Accounting will ensure that their undergraduates spend 6 months in industry. The other faculties are working out

the length of their work placement – it could range from 3-6 months (the faculties are discussing this presently).

The objectives of the Industrial Attachment Programme are to:

Provide opportunities for the students to use their initiative to translate theories learnt in classrooms and perform assignments in an actual working environment;

Instill in the students the right kind of work attitudes and professionalism through interaction with people in the organizations.

What is crucial for the success of Industrial Training is the implementation through effective structural and delivery systems to initiate policies and their implementation to ensure that both undergraduates and industry benefit from this crucial need and experience.

Management of Industrial Training

Each faculty has industrial training coordinators. Each faculty has its database of companies that they would regularly send their students to. These companies are a combination of research facilities in Malaysia, Multinational Corporations and SMIs that are open to having our students on attachment in suitable units within their organization. This is being constantly updated both by the industry-liaison office and the faculties.

We are continuously seeking to improve ourselves and therefore had a one day workshop on the 22 Nov 2007 where we brought together all the industrial training coordinators from the various faculties. I will share with you some of the outputs from this workshop. The industrial training coordinators felt that it was important to:

- i. develop a common on-line system at university level for all students and industry players to access. The faculty of engineering at UKM has this and I believe many other universities already have this – both public and private – we will be working towards this.
- ii. ensure that students gain not just quantitatively (6 month period) from their industrial placement, but even more important that they gain qualitatively from their experience.
This can be done by:
 - a. standardizing the monitoring processes of students by the Industrial Training Coordinator whilst they are undergoing industrial placement.
 - b. standardizing the monitoring of student performance by “employer” whilst students are undergoing industrial placement experience.

In industrial training the qualitative aspects are critical. This would be relating to the opportunities provided by organizations as to the nature of the internship – are students just filling material away, or are they provided with opportunities that are meaningful and that will genuinely assist them develop the capacities and competencies that are needed?

Problems faced by academic institutions re: industrial training

- The challenge of obtaining new attachment opportunities with the increasing number of students
- Delayed response from industry upon application
- Objectives of industrial training not clearly understood by students and industry
- Industry does not articulate grievances and thence reduces chances of implementing improvement – this calls for greater interaction between industry and university.

Mechanisms need to be put in place so that it will be easy for industry to communicate with us openly and swiftly – we need to use technology to work out this mechanism. This is because for Industry time means money.

We are presently thinking through alternative modes of workplace experience.

New Trends in Industrial Training at UKM

i. Simulated workplace experience

We are providing opportunities for students to be able to plan and implement programmes which they will then market to society external to the university. For example, we have students who are very talented in various ways. We could provide them with the opportunities to plan and implement programmes that could be viable for the development of society. These programmes could then be sponsored by industry as part of their corporate social responsibility. In this way industry does not have to be burdened by providing only placement for industrial training but greater numbers from other less technically oriented faculties could benefit from these initiatives.

These programmes could comprise areas in multi-ethnic cultural awareness, leadership skills, teamwork etc. They could plan these for children from both advantaged and disadvantaged backgrounds. This will be tremendous in terms of contribution to community. It will also provide students the context in which to stimulate creativity, apply organizational and planning skills, communication and persuasion skills cause they will have to market these programmes (sponsorship from industry and to participants), manage resources and display empathy and care for the charges in their responsibility.

We will have to work out the mechanisms, the criteria and the evaluative supervision that will need to be put in place to ensure that students do the necessary to qualify for the credits that other students would get through actual workplace attachment.

ii. Placement in NGOs

An alternative workplace environment can be provided by Non-Governmental Organisations – these are organizations that deal with humanitarian aspects of life – for example, Mercy Malaysia. We are working collaboratively with them and they were telling us that students seldom look at organizations that deal with humanitarian matters as a workplace which provides for career opportunities, which is not the case these days. They provide lots of interesting opportunities for work which provides not only monetary value but more importantly food for the soul!

iii. Research-based industrial training

As UKM is moving towards the Outcome Based Education (OBE), we are approaching the industry to obtain real life industry problems for the students to work on for their final year research project. This will provide students 2 semesters of training on researching areas relevant to industry.

For example, the engineering faculty has students working on waste water treatment projects and water quality projects with Indah Water Consortium and Syabas. Industries find this a good plan as it buys into time in university to train the students for industry.

iii. Entrepreneurship activities as part of internship

We have signed an MOU with the Small and Medium Industrial Development Corporation (SMIDEC) and the Small Medium Enterprises (SME) Bank to support the university's entrepreneurial activities for our students.

Under this scheme, 20 UKM students have been selected after undergoing tests and interviews to be attached with selected small and medium enterprise (SME) companies for three months. The Chief executive officer of SMIDEC describes the process of the attachment programme. She says, "These students who come from different educational disciplines, are put into four groups of five people, and each group is attached to one company. The group of five has to work as a team to turn around the company." (Hafsah, 2008)

The two integral disciplines which need to be in the groups are finance and marketing. The rest of the students in the group come from various other faculties. With this multi-disciplinary mix, and guided by their lecturers, they provide the small and medium industries with advice in the areas ranging from marketing, accounting, website development, interpersonal skills, pricing of products and a host of other relevant competencies and skills necessary for the successful running of businesses.

This provides students with skills and competencies for self employment as a means of reducing unemployment levels. This is based on experiential learning and will require students to possess critical knowledge, problem-solving skills and group working skills. Students are required to be involved in real-life business experiences in order to learn skills and knowledge. (New Straits Times, 2008: 25)

Academic Placement in Industry

When a lecturer spends time in industry, he not only enriches his own experience but also that of the students. When lecturers can situate themselves in an organization for a period of time, they are able to judge whether what they know theoretically still applies. They therefore enhance both their teaching and research capacity.

We have a few challenges that we will need to face in promoting academics to work / research in industry. The first is to ensure that after they have experienced life in industry they will return to the universities – otherwise there will be a brain drain.

Another aspect is the recognition of both the quantity and quality of time spent in industry particularly for annual appraisal purposes. Presently, research that is carried out during sabbatical leave is allotted much greater value compared to the time that is spent in industry. So we need to address this if we want to encourage academics to work collaboratively with industry whether it is through research or through workplace experience.

It would be good to work out with professional bodies the recognition and value that could be provided to academics for the time that they have spent in industry. We need to work out clearly the reward systems so that academics can be appropriately motivated.

Corporate Advisors on Curriculum Boards

Closer ties with industry would also result in feedback on the relevance of academic programmes which are very important to produce employable graduates.

Office of the University-Community Partnerships

Universiti Kebangsaan Malaysia is very serious about producing a society that is imbued with dynamic and civic leadership as part of its civic role and social responsibility. We aim to produce graduates who are innovative and economically productive whilst being socially responsible.

We are channeling added resources and research facilities to position UKM to contribute to community change relatively quickly and in ways that will ensure deeper and longer-lasting commitment to civic engagement across higher education.

This brings us to the Office of University-Community Partnerships. The objective of this office is to work in collaboration with industry players and non-government organizations to help meet with the social needs of the community. Many organizations work at fulfilling their corporate social responsibilities and universities too have a push for the social agenda of their research. Merging the energies and efforts of both parties to benefit community's social needs should prove more productive.

In our efforts to move in this direction, we have become members of the Talloires Network and signatory to the Talloires Declaration on the Civic Roles and Social Responsibilities of Higher Education. The Talloires Network is an international association of institutions committed to strengthening the civic roles and social responsibilities of higher education. This in turn commits us to expanding and strengthening our civic engagement and social responsibility work through teaching, learning, research and service as discussed below.

Village Adoption Project: Kampung Kundang Ulu Community Enrichment Programme

UKM has adopted a village in Pagoh, Johor which was badly affected by floods a few years ago. More than 1000 UKM students of all ethnic backgrounds volunteered to help clean up the Pagoh area and they travelled over several weekends to clean up schools, places of workshop, community centres and homes. Consequently, the village asked UKM to adopt it and to help with a comprehensive development plan to look into poverty reduction, health promotion / disease eradication and environmental conservation. Thus, UKM officially adopted the village and the Office of the University Community Partnerships identified significant concerns and needs of the community.

Disaster Relief Effort

UKM signed a memorandum of understanding (MOU) with MERCY Malaysia, a renowned Malaysian humanitarian society, with an objective to collaborate in efforts to provide medical and humanitarian services at home and abroad. Through this MOU, UKM agrees to facilitate its staff's involvement in disaster relief efforts led by MERCY Malaysia. The MOU also facilitates collaborative disaster relief and risk reduction-based research between the two parties.

Environmental Preservation and Sustainability

Fern Rejuvenation Project

By maintaining the nation's only fernarium at UKM, Taman Paku Pakis which has rare, endemic and threatened ferns, is a conservation botanical garden under the care of the Faculty of Science and Technology. It houses almost 150 species of ferns and is one of UKM's attractions as a University in a Garden. Through a joint project of rejuvenation with ExxonMobil, UKM hopes to

instill awareness among visitors to sustain biodiversity in caring for the environment and promoting fern awareness among the public especially school children.

Caring for the environment for a better future has also led us to collaborate in external projects with other agencies.

Tasik Chini, Pahang

The Lake Chini Research Centre at the Faculty of Science and Technology and the Pahang State Government are collaborating to restore the lake and its surrounding wetlands to achieve the category of a UNESCO Biosphere Reserve. The team members include environmental engineers, botanists, biotechnologists, chemists, anthropologists, health professionals, economists, business/marketing experts and psychologists.

The multidisciplinary research and integration in Lake Chini and its wetlands has led to the effectiveness of Phytoremediation in removing pollutants from wastes, the positive effects of water changes in the lake on the lives of the indigenous people (Orang Asli) who live on the shores, the use of reeds from the lake for paper production by the Orang Asli and the training of the Orang Asli in entrepreneurial activities.

The Chancellor's Foundation

The third office is the chancellor's foundation which generates the funds for all student mobility programmes, particularly outbound student mobility activities and acts as secretariat for the establishment of chairs of excellence in various research disciplines.

The three main responsibilities of this office are developing and maintaining UKM-Global Student Mobility Partnerships, establishing and sustaining chairs of excellence in UKM's niche research areas and the essential generation of funds to support the many activities which underpin the educational, research and service thrusts of the university.

In June 2009, we are planning to launch two short-term programmes in the fields of "The Sustainability of Tropical Heritage" and "Indigenous Communities."

The aim of these programmes is to build bridges for international understanding and friendship. These are two four-week programmes, made up of a balance between academic content and application in this knowledge and information in real-life contexts through fieldwork. We have worked out four credit units for these courses, which universities who are interested in establishing partnership with us, can reaffirm with their respective academic councils.

"This course presents students with the opportunity to experience the Malaysian tropical environment famous for its geological and biological ecosystems which boast unique physical landscapes, lush primary rainforests and an incredibly diverse marine life. Within these tropical settings thrives a rich mixture of communities that include Malay, Chinese, Indian and various indigenous groups with diverse cultures and customs. The course will take international students on a journey of discovery as they interact with the rich tropical heritage resources and diverse cultures of the Malaysian community." (UKM-Global Student Mobility Partnerships, 2009)

We have 11 students from the University of Surrey who will be with us on the PMi2 Connect awards, which is supported by the British Council. In addition, the response from Australia has been exciting. 21 students from various Australian universities will be participating in the

programmes. The students from UKM will have an international experience on campus with this wonderful mix of students from abroad.

AirAsiaX, Malaysia's budget airline, is our corporate partner and is offering students from abroad very cheap fares to participate in these programmes. They are doing this as part of their CSR initiatives as expressed in their tagline on the brochure, "In support of sustainable development and bridging communities through low fares."

We would like to encourage other students from Europe, Japan, Korea and other countries to come to Malaysia, a colourful country rich in ethnic, cultural, gastronomic and tropical diversity, and participate in these programs. This will enrich international understanding and enable students to cross geographical and cultural boundaries and make connections.

Conclusion

The nature of collaborative relationships between university, industry and community are limited only by the degree of our imagination, the matching of common interests and the willingness to plan and implement the opportunities. It is essential that we constantly seek ways in which to reach out to industry – to check with them whether our graduates meet with their needs and to work collaboratively to ensure that together we develop relevant human capital essential for our nation's development.

The triangular relationship between university, community and industry is vital to Malaysia's development. Universities, industries and communities have a wealth of intellectual capital and expertise. We need to learn from and collaborate with each other. This newly created portfolio provides the public face of the university to industry and community and provides the platform for the partnership to work together in a meaningful, systematic and exciting manner.

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