

## A Swot Analysis of Challenges Facing Research Universities

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### Abstract

Four universities in Malaysia were accorded the status of research universities. Universiti Kebangsaan Malaysia is one such university. The Malaysian government and the Ministry of Higher Education have strong convictions that through research the universities can achieve world class status. The challenge for research universities necessitates change and adaptation to the new demand. In order to move forward effectively to respond to such demand the universities need to reflect upon their present status and evaluate themselves both intrinsically and extrinsically. One mechanism that is popularly used in the psychology of change is the SWOT analysis. This precedes the development of a more strategic model to pave the way forward. The SWOT analysis focuses upon four environmental factors namely (a) Strengths (b) Weaknesses (c) Opportunities and (d) Threats. Using the SWOT analysis model the status of the research universities can be analyzed evaluated and comprehended.

A SWOT profile was developed that help depicts the strengths, weaknesses, threats and opportunities facing the research universities. The SWOT Profile was determined following data collected from the academia. Strength factors derived included the research funds pumped into the research universities and the qualifications of seasoned researchers; the opportunities for networking and professional development. Threat factors include competition from other research universities, distractions and workloads and work priorities. Weaknesses that exist include governance of research activities, financial management, group formation and multidisciplinary and time management. The opportunity factor can be seen in the number of research innovation and rewards for the researcher and contribution to society. The writer forwards recommendations based upon the SWOT analysis.

**Keywords:** research universities, SWOT analysis

### 1. Introduction

Malaysia Vision 2020 stresses the establishment of a scientific and progressive society that is both forward looking and innovative. The National Vision Policy also stresses the need to develop a knowledge based economy whereby research and development is considered of paramount importance. Recently the government of Malaysia has designated four Malaysian universities the status of research intensive university. Traditionally Malaysian universities have been involved in the traditional roles of teaching, research and publications consultancies and community services. However by bestowing four Universities the status of research universities the government has high expectations that these universities excel in research activities and invent knowledge through research and publications. The four research universities selected are University of Malaya, Universiti Kebangsaan Malaysia, Universiti Sains Malaysia and Universiti Putra Malaysia. These universities are considered to be premier universities being established long time ago and supposedly to be more accomplished.

Research universities are expected to show quantum leap in research undertakings and to be the models of Malaysian universities in research. The challenges for research universities are to respond to new developments and improve their research capacity and competitiveness. By bestowing the status of research universities several perceptions and beliefs occurred. The research university status suggests the existence of academic elite coming from the research universities mentioned. Secondly it suggests that these universities are definitely more ahead and more powerful since they are privileged to the special research grants accorded to them as compared to those universities which are ‘normal’ and do not have access to this special research grants and operating research funds. These universities are also identified as proper candidates for university rankings standing ahead of the other universities in Malaysia. Thus they have the competitive edge and advantages. Universiti Kebangsaan Malaysia has been vigorously developing monitoring measures to sustain the research intensive university status. The university has established eight criteria to be fulfilled in order to be a research university.

They include

- Publications : an average of two journals per year per lecturer
- Research Grant : an average of RM50 000 per year per lecturer
- Post Doctoral : 10 posts appointed per year
- Percentage of lecturers having PHD reaches 60%
- Ratio of first degree to post graduate students reaches 40% : 60%
- Percentage of international postgraduate students to be increased
- Changes in management to enhance the research university
- University-industry partnership to be enhanced

## 2. Research Methodology

This paper selected SWOT analysis as a methodology to reflect and reexamine the roles of the present research universities in order to excel and achieve their goals. The SWOT Analysis refers to a classic strategic planning tool which focuses upon the internal strengths and weaknesses of an organization as well as to the external opportunities and threats. The SWOT is a reflective tool that can help planners be realistic about their goals and what to focus on. A SWOT framework is usually referred to as a two by two matrix reflecting the four quadrants Strengths, Weaknesses Opportunities and threats.

This paper reports on the results of the SWOT analysis done by the author in the context of Universiti Kebangsaan Malaysia. The findings may be similar to the situations in the other three research universities or may differ to a certain extent. The SWOT is said to be able to help make better decisions and to facilitate changes. The SWOT tool was distributed to a mix of seven junior lecturers and professors who are involved in planning and conducting research in UKM. The paper is also based on additional data conducted through telephone interviews to several academic staff. The results of the SWOT Analysis are in no way exhaustive but include among others the following findings.

## 3. Results and discussion

A SWOT profile was developed that help depicts the strengths, weaknesses, threats and opportunities facing the research universities. The SWOT Profile was determined following data collected from the academia.

### 3.1. Strengths

UKM has been acclaimed as a very strong research university under the guidance and leadership

of the respective Vice Chancellors till the present. The university's policies on research has been tabulated and succinctly written to enhance understanding of the academic staff of UKM. Several terms have been given to UKM to signify its achievements such as UKM *Universiti Penyelidikan*, (UKM as a Research University; UKM *Universiti Kebangsaan di Persada Antarabangsa* (UKM as an international University) which denotes that indeed UKM prioritizes research and internationalization. The Times Higher Education Supplement (THES) in 2005 has ranked UKM at number 91 among the world top 2100 universities in science.

UKM Strategic Plan 2000-2020 is the catalyst that spearheads the way forward to excellence in all pertinent areas. For the past 35 years UKM has been the pioneers in several areas such as Antarctic Studies, biotechnology, Science and Technology Energy Micro-electronic and its researchers have participated and achieved success in several expositions locally and in competitions abroad such as in Geneva and Korea. The researchers in UKM are seasoned researchers having long term experiences which have been involved as consultants for government agencies and outside bodies. The research grants obtained from research grants such as (IRPA) (FRGS) (ESCIENCE) (GUP) and other grants from outside the university remains very commendably high.

The strength of UKM in research undertakings is irrefutable because of the number of Professors who are (Lead Scholars) to guide the young lecturers to conduct research. Thus the system has embedded within it a support group to propel it forward to enhance the status of Research University. To reiterate a university's strengths is its resources and capabilities that can be used as a basis for developing a competitive advantage.

Equally important to mention is the existence of several centers and institutes of Excellence such as a) Institute of the Malay World (ATMA) b) Institute for Environment and Development (LESTARI) c) Institute for Malaysian and International Studies (IKMAS) d) Centre for Gene Analysis and Technology (CGAT) e) Institute of Microelectronic and Nanotechnology (IMEN) f) Institute Mikromolukel for Health (UMBI) Institute Kajian Occidental (IKON) g) *Institut Penyelidikan Tenaga Suria* (SERI) h) *Institut Biologi Sistem* (INBIOSIS) i) Marine Studies. These Centers of Excellences are the pride of UKM. These Centers of Excellence can be said to be exemplars initiating and conducting research in certain thrust areas.

The Centre for Research and Innovation has been especially set up to coordinate research activities in UKM and to plan further progress. UKM has taken several measures to fulfill its role as research intensive university. Described as a systematic and holistic approach UKM propagates and reinforces several strategies related to the upholding of a research intensive university. To enhance the research culture the academic staff at UKM are motivated to be good researchers through the promotion of research skills, ensuring accessibility to research grants and support from the university through the sabbatical leave. At the micro faculty level enthusiasm and responses to the workshop doing research proposals are tremendously enlightening. A rewarding research culture is demonstrated through yearly research exhibitions at the faculty, university and international levels. The concept of research leadership through informal leaders such as lead scholars seeks to enhance the motivation of doing research.

The strengths of UKM as a research intensive university can be seen in the reward structure such as in promotions to associate and full professors whereby performance in research publications and graduate supervision are given greater weight age. With regards to management the researcher can easily access the web based financial system to determine the usage of the research funds. UKM also has a Process structure which monitors the research processes such as dissemination of information on available grants, evaluation of research proposals and monitoring of research progress and technology transfers. The *University Research Management System* or U3P helps keep basic information on every research project approved and registered formally. Strengthening all these is the organizational structure involving the Research Advisory Board, the *Research Development Planning Committee*, and several other committees.

### 3.2. Weaknesses

Recognizing the strengths alone would not sustain the research intensive university. For indeed every positive will also have the negative aspect. For every endeavor there has to be the human aspects attached to it. To be identified and respected as a research university UKM has to examine its internal weaknesses. The SWOT analysis reflects several

factors that may be considered as restraining factors (depending on how one interprets them).

One is the need to upgrade the supportive research infrastructure such as adequate and quality research laboratories, efficient research assistants and the existence of a reliable and dependable server. With the numerous offerings of research grants given recently the question about supportive infrastructure arises. Research assistants alone are not adequate but the more important question is a very competent research assistant who can help manage the research processes. We can also find academic staff without the necessary prerequisites with academic workload tensions.

Secondly the urgent need to realize the development of a cohesive multidisciplinary research teams which although has been encouraged but still has not materialize fully to achieve its targeted goal. Research groups at the faculty level need to extend and outreach its arms to members of the academia outside the faculties and the universities thus crossing over Faculty boundaries across to other universities in Malaysia and crossing over other countries and continents. Although internationalization efforts has been the strength of UKM there seem to be further concrete efforts to develop inter-continent research projects in the wake of globalization.

Thirdly the flurry of research activities often put the ordinary researcher at a crossroads. The numerous distracters that pull and push the academia are too well known. Which increases the stress level of the latter? The academia is faced with which priorities to address trying to manipulate and juggle with the ever increasing work demands and work loads. The research university encourages navigating from its traditional role of a balanced of teaching, researching, publishing and consultancy and community services to a more solid focus on research. Thus the researcher has either to downplay teaching to do research or to succumb to be left behind in the research grant race. To reecho this finding is to say that researchers need the comfortable pace and quality time accorded to research otherwise it will helter skater or hurry scurry. The system then will need to ensure that a harmonious homeostasis exists between traditional demands of teaching and the more glamorous demands of research. Thus management of time then is the inherent weakness of the system.

Despite many accomplishments in UKM (especially in the numerous research grants granted) there is still urgency to ensure that each academic member produces on the average two journals per year per lecturer. The recent evaluation on the research activities in UKM demonstrated that the lecturers seem to favor doing proceedings to the referred international journals. This is quite understandable looking at the tardiness in getting articles published in the Scopus list. Perhaps this pertinent and dominant weakness reflects the weak research writing culture existing in the university and

the need to write journal articles in the National language instead English.

A very demanding urgency is to maintain a cutting edge curriculum and maintaining a stimulating research environment. Universities can lack behind in integrating research into teaching or using teaching to explore research. The integration between research and teaching should be receiving considerable attention as researchers are more often than not attracted to national issues and aspirations at the macro level and thus not giving the attention to research in their own disciplines.

### 3.3. Opportunities

The new millennium and globalization put forth many opportunities to scholars and researchers around the world. Being borderless each researcher in the university can enhance its outreach to fellow researchers in notable universities. To be a global research player is the demand of the new era. The opportunity is provided in the internationalization plans of UKM whereby *the dana operasi* or the operational funds enable each researcher in his or her research group to initiate cross border research. For example for my area in Early Childhood Education there are other professors in Early Childhood Education in the University of Melbourne or the Columbia University. The opportunities to develop borderless friendship and to explore cross cultural research themes and projects are numerous only subject to the limitations of the imaginations. There are also opportunities to work closely with NGO's and NFO's and GLCs and to foster friendship and complementary relationships that enhance the progress of the community. This is especially so since the discovery of new knowledge from the university can enhance the economy and national developments. University researchers need to explore the endless frontier and to concretize linkages between the government universities and industries

### 3.4. Threats

Threats can be interpreted to be internally derived or externally derived. The race for university ranking can accentuate vigorous competition and threatens the stability of the workplace. Which university in Malaysia will occupy the uppermost rank that is called the apex position? While some may regard the proposition to create the apex position as ridiculous there are others who abide by its philosophy excellence above excellence. The research university achievement in research and other related activities can be the number one priority in these universities. With it comes the excess baggage of working beyond to fulfill the demands of needed outputs measured in terms of the number of academic articles to be published for high impact journals such as the list from Scopus. Threats derived from the government quality assurance goals and responsibility to students may be a very conflicting.

Alongside the currents which push academia to do the research and to add on to the numerous research projects is the need to be highly accountable to students who claim that the core business of the universities are just to produce graduates. From now the career profiles of academicians may be changing to the direction of the expert researcher and less of the subject specialists. The increase in demand for off shore academic programs which accumulates every semester also necessitates the academia to be masters at constructing time and energy to avoid what Covey addresses as "always putting the fire" or catching deadlines.

## 4. Conclusion

Having looked into the SWOT findings we can suggest several recommendations to assuage the constraints and weaknesses of the research culture as well as enhance the opportunities and strengths. This paper is by no means exhaustive and may have neglected certain components that need to be addressed. It is imperative for the academia to address the following pertinent issues:

- a) How does one achieve homeostasis in balancing research endeavors and teaching responsibility? How does one strategies to work at a reasonably comfortable level the time between listening to your students and the time to furiously delve in your research undertakings. This is a critical moment to ask philosophically the meaning and glory of doing research or teaching or the integration between research and teaching.
- b) If billions of funds has been pumped into the research universities how does one sincerely measure whether one as a researcher has contributed concretely to the society as well as to the new knowledge engineered. This would call for a very succinct measurement system and societal judgment on whether a cost effective and a cost benefit scenario has been demonstrated. I recall a community leader stating that prizes of awards alone do not mean the community has benefit from the research.
- c) Developing a cohesive and multi-disciplinary membership in the research teams would necessitate a reexamination of several focus research areas or thrusts. There would need to be consensus on the common good as opposed to personal specific and narrowed to ones disciplined research topic. In conjunction with this is the importance of determining the appropriate research thrusts. Universities need to be aware that thrusts should be of societal relevance, and should embrace the postgraduate training for research. Research thrusts should not become areas of conflict or disagreement but

should enhance the reputation and prestige of the university locally and internationally.

- d) In terms of research leadership there need to be followers and leaders intertwined. based upon positive interaction .It is futile to appoint a Lead Scholar if the perception is negative towards the lead scholar or if the lead scholar does not fulfill the needs of the members of the team
- e) Looking at the macro level Malaysia has yet to develop an excellent research clearing-house and a strong data base to coordinate all research efforts and results. This is to ensure that research conducted is not done in duplications and in a piecemeal fashion. Segregation in research at universities would not establish substantial long term effects.
- f) There is need to upgrade efforts at techno-logy transfer and patents. Examination of the financial and management constraints at patent development can be a strategy forward. The demand for new technologies and new products should be balanced with outputs
- g) Complementing its internationalization efforts UKM should have a steady increase of post doctoral students from other countries. Post Doctoral students from overseas are to be encouraged to further their post doctoral studies.
- h) More room space for creativity. Rigidity or lack of flexibility does not support the research culture. More time to conduct quality research need to be the priority rather than the exception.
- i) Incentives and rewards are opportunities that can be further developed and sustained. The present incentives are adequate but there can be opportunities to further enhanced research involvement. Many researchers who are also teachers at the university suggested greater research time given such as exemption from teaching for one semester as well as enhanced facilities. The opportunity to conduct internships with industry or other partners can be further explored. International networking enticing more international professors to become fellows. It is also necessary to develop and implement student exchange programs. For this to occur there is need to solve the issue of credit transfers amicably and flexibly.

### **Acknowledgements**

The writer acknowledges input from important documents in UKM as well as information given by fellow colleagues.

