

STUDIES OF STRATEGIES AND MANAGEMENT

RESEARCH UNIVERSITIES: SOME BASIC SPECIFIC FEATURES

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Abstract:

Research university is a model for the best practice to link teaching and research activities. The Research University increasingly attracts attention of scholars, researchers and science-education policy makers in many countries including also developed nations. The Research University has high specific features. It is costly to follow this model and the development of this model requires a developed institutional environment. Therefore, according to some researchers and scholars, it is a hard problem to develop the model of Research University in its right senses, especially for developing countries. This paper gives contributions to understand better some basic specific features of this model of universities.

Keywords: *Research University; Education policy.*

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1. Introduction

Actually, more and more countries are following the modern model of economic development which is called the knowledge based economy. The main feature of this economic model is to make focus on production, use and propagation of knowledge. In this chain of knowledge transfer the role of universities is recorded as particularly important. Universities hold the important role also in propagation of knowledge through education and training activities for higher qualification and skills of human resources, and promotion of fast and effective of produced knowledge. At the same time, universities are also main factors to produce knowledge. Therefore it is possible to say that universities play not only direct roles of teaching activities but also the one to produce new knowledge, or, by other words, to conduct scientific research activities. Here, universities, in addition to

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teaching duties, are also units to conduct researches. Recently, many countries, including Vietnam, make efforts to build up the model of “Research University”. What is then the Research University? What are its basic features? This paper provides contributions to answer these questions.

2. Notions of university and Research University

2.1. University

In this part, we do not want to go deeply in clear interpretations of academic contents of universities but use the related notions provided by Oxford Dictionary and the actual use of these notions in the world.

“University” (*Universitas* in Latin) is a high level institution of education and *research*. It provides academic certificates/diplomas in various specialties and provides both the graduate and post-graduate levels of education.

“College” (*Collegium* in Latin) is an institution of education or component of an educational institution. A college may be either a high level institution of education to provide certificates/diplomas or part of an university which encloses secondary education levels or an institution which provides vocational educations.

In global terms, a college can be an independent educational institution or a unit of an university. Some colleges can be specialized in certain specific disciplines such as laws, medicine, arts etc. or units of these specialties in universities. In addition to that, there are some terms which are usually used for the same meanings of university and college such as *school*, *institute* and *graduate school*.

Countries in the world use the words “university” or “college” in largely diversified manner. There are some examples.

In the US, the terms “college” and “university” are used usually to talk about a high level school. However, in the US, the term “university” is applied for larger scopes and higher level of activities in comparison to colleges. Universities have more capacities than colleges to provide certificates of education and training of graduate and post-graduate levels while colleges are to provide only certificates/diplomas of graduate level. In addition to that, there is also the term “*community college*” or a less used term “*junior college*” which, in the US, are to deal with educational facilities which provide 2-year programs and a certificate/diploma at end of completion of the programs (a half of those people having finished them

can be transferred further to a college or university to complete the full 4-year programs).

In the UK, a “college” can be a school in an university and may not provide diplomas. In some cases, a college in an university may not be related directly to studies but deal with other activities in connection to accommodation and other facilities students can use in campus. Sometimes, the term “college” is used in connection to secondary education programs where students can attend to get higher level of knowledge, i.e. *A-level/GCE advanced level* in the British system of education.

In Canada, the term “college” is usually used in connection to post-secondary education programs such as vocational and technical education, and also various disciplines of arts and sciences. In Alberta, British Columbia and Ontario, there is also the term “*university college*”. This term is used in connection to those colleges which are recognized as a completely independent entity as an university is.

In Australia, this term is used in connection to secondary education. This term is less used to talk about specific vocational school or a school in an university. The term “faculty” is used usually to replace the term “college” in post-secondary level of education.

In Singapore, the term “college” is used only to indicate institutions of preparatory education for higher education which is called “junior college”. It provides the last 2 years of secondary level of education. Since 1st January 2005, this term is used in connection to three facilities of *Institute of Technical Education (ITE)* following the appearance of the “*collegiate system*” (universities also providing secondary education programs). These facilities are ITE College East, ITE College Central, and ITE College West. Here, the term “university” is used in connection to high level institutions of education which are capable of providing certificates/diplomas. Those educational institutions which are capable of providing diplomas are called “polytechnics” while other educational institutions are usually called “institutes”.

In so large context of use of the terms “university” and “college” in many countries in the world, this study is limited to use the meaning of the term “university” as it is used in English.

2.2. Research University²

Actually, there exists many different terms to indicate this type of institutions³, namely: *Research Oriented University, Research University,*

² Understood as Research University in this paper.

Research Intensive/ Active University or *Very high/ High Research University*) and some others.

The used terms solely indicate that these universities conduct numerous activities of scientific research. The notion of Research University appeared firstly in Germany when Wilhelm von Humboldt established University of Berlin which is called also Humboldt University (opened 10st October 1810). With University of Berlin, the science, for the first time, gets free from engrossing religious doctrines, social benefit impacts and State power, and then get firmly institutionalized. Only in these framework conditions, the science can play the development driving roles for research works and discovery activities. Only in this way the science can play the effective roles for social development. All of these are within the interests of the State power (*N.X.Xanh, 2014*).

The model of Humboldt University is the symbol of modern universities in the world over the world (higher education programs with educational spirits through sciences and profound erudition) as the cases of the US, Europe, Australia, Singapore and many countries. Actually, though in different levels, the countries with strongly developed sciences have their universities to conduct research activities. They set up the model of Research University. The notion of Research University has particularly important meanings for developing countries and Soviet-modelled countries with large gaps between research and teaching activities. In these countries, the main focus of universities are for teaching activities and almost very low attentions for scientific research activities.

What is then the Research University?

As mentioned above, there exist many terms used to indicate the institution called “Research University”. And up to now, there is no precise definition which is agreed globally for this term. According to the Carnegie classification of educational institutions for US universities (1987 version), the university includes institutions:

- Providing a series of programs of bachelor level;
- Committing programs of higher education on basis of qualified human resources with doctor grade;
- Holding high priorities for scientific research;
- Conferring 50 diplomas of doctor grade every year (from 1973);
- Receiving a federal budget of US\$40 million (from 1994).

³ The authors do not deal here with the terms “*world-class university*” or “*flagship*”.

According to the Carnegie classification (2010), US Research Universities are classified to three levels: (1) Universities which conduct **very high level** of research activities (RU/VH), there are 108 universities; (2) Universities which conduct **high level** of research activities (RU/H), they're 99 universities; (3) Universities which provide diplomas of doctor grade (DRU) which conduct research activities but not in very high level and high level, there are 90 universities. Applying the same activity-based approach, Shin (2008) made a classification of Research Universities and divided them into three levels: (1) Research University, (2) Research Active University and (3) Doctoral/Research University.

Some authors Truong Quang Hoc (2005), Mai Trong Nhuan and Nguyen Van Nha (2007) propose some features to identify the Research University which are namely:

- High level of autonomy and accountability. In terms of high level of autonomy, these universities have powers to decide almost all aspects such as personnel organization, academic fields, infrastructure, finance and etc.
- Research Universities are interference of three functions of training, scientific research and social service. The close combination of these three functions is also the basic trend in the strategies of higher education development of many countries. Universities are not only training centers but really become centers of scientific research, production, use, distribution, export of knowledge and transfer of new and modern technologies.
- Low ratio students/teacher: 10-15 students per teacher;
- Good team of leading scientists and professors;
- Important allocation of time for scientific research and services;
- Large and multi-sourced funds for scientific research;
- Full infrastructure for scientific research;
- High share of activities for post-graduate education.

Author Trinh Ngoc Thach (2005) proposed the following indicators to identify Research Universities on basis of the US model, namely:

- High scale without distinguishing the status (being private or public);
- Teaching/Research/Services ratio of Research Universities is usually 3/5/2;

- High ratio, which is usually 50%, of doctor and post-graduate students to the total number of students;
- Important external support sources (which may come, in certain cases, up to 50% of total incomes);
- Low volume of lecturing time of teachers (they have more time for scientific research and technology transfer than for lecturing duties);
- Inter-sector and multi-discipline scope of training and scientific research activities;
- High quality of activities of training, scientific research and services.

On basis of studies and analysis conducted by domestic and overseas researchers and organizations on the topic of Research University, it is possible to note some common and important features of Research Universities as follows:

- High priority is reserved for scientific research and close links of learning and scientific research activities;
- Excellence in scientific research is one of the objectives of universities;
- Strong basis is provided for excellent higher education;
- High number of doctors gets trained annually.

In the optics of these indicators, the Research University can be interpreted as follows: *the Research University is an academic institution which has roles to produce and to propagate knowledge in many sectors and disciplines, and has necessary resources (human resources, financial resources, infrastructure and confidence) to carry out the best of their teaching and scientific research duties.*

3. Why to develop Research Universities?

As explained above, the development of Research Universities is an irreversible trend of the contemporary world. Research Universities underline the importance between links of teaching and scientific research activities. This linking of teaching and scientific research activities is beneficial in many aspects, namely:

- Fast S&T development requires teaching staffs to conduct research activities to update their knowledge and to enhance their qualification. Their lectures need to be update regularly with additional evidences on basis of research outcomes;

- Needs of social development require efforts for research from teaching staffs to meet training needs of the society. Teaching programs and lectures have to be based on research results and topics of lectures have to be based on practical needs;
- Lectures need to provide new ideas and suggestions which come from teaching practice and they would serve as platform for further research works;
- Research works should have supporting teams gathered from students and then have capacities to carry out large scaled projects;
- Research works should involve the participation of students and then make them familiar with research activities and enrich their own knowledge;
- Research activities need to motivate students and to encourage them to start research carrier and to mobilize their entrepreneurship;
- Research activities should mobilize the participation of student through concepts of learning by doing and learning by studying;
- Measures are to be applied to enhance the efficiency of use of research infrastructure and the share of information;
- Quality and quantity of publications need to be enhanced;
- Scientific research, as rules, requires huge financial sources. Then, the concepts to develop training activities on basis of social needs and needs of enterprises give contributions to get additional funding to support scientific research activities. In practice, the money volume enterprises pay universities for higher education sometimes is bigger than the one the universities can get from by State budgets;
- Researchers, through teaching and training programs on basis of social needs, have “larger rooms” for implementation and tests of their ideas.

4. Basic and specific features of Research Universities

Academic freedom

When talking about universities in general and about Research Universities in particular we need to mention about the notion of *academic freedom*. The first evidence of academic freedom came from the world’s first university. In 1158, University of Bologna had promulgated the academic chart named *Constitutio Habita* which secures freedom rights of scholars. It is the original concept of the today’s *academic freedom*. The academic freedom is recognized largely by international communities on 18th September 1988

when the directors of 430 universities signed *Magna Charta universitatum* on occasion of the 900-th anniversary of University of Bologna. We are witnessing today the increasing number of universities in the world to sign *Magna Charta universitatum*.

The academic freedom is a kind of top privilege only higher education institutions can get. In general, the quality of an university is proportional to the extent of academic freedom it gets. Universities are the place where scholars follow the verities and the high level learning occurs. Only scholars really know how to produce and to propagate knowledge in the best way, and really understand the contents and complex natures of knowledge (*Altbach, 2007; Lee, 2013; Salmi, 2009*).

Autonomy rights

Universities have maximal rights to autonomy in many aspects: they make their own decisions, by themselves and for themselves, to key academic problems (no needs to follow plans of any other organization), to define aspects of human resource development (selection of lecturers, selection of the director, appointment of lecturers, invitation of foreign professors/experts and etc.), to set up financial plans (tuition fees, grades of salaries for experts) and etc.

It is necessary to underline that the autonomy has no way to be absolute. In parallel to autonomy status they have responsibility of accountability (to supporting and funding organizations, and to students). However, the responsibility of accountability of universities needs to be interpreted and operated differently from the one of non-academic organizations.

High intensity of production and propagation of knowledge

The Research University is an integrated organization which puts priorities on production of new knowledge and training of qualified human resources for future (*Mohrman & et., 2008*). It is possible to note that majority of high valued research works originate from university communities.

Here as for illustration purpose, high needs of medical research are oriented by rich people in developed countries and the needs link schools and medical universities in such relations which are based on broad platform of research activities. Medical schools of universities become tools of fundamental research which overpass largely contributions of these schools in training and clinical practice activities. In addition to that, universities with subordinate medical schools have higher rate of publications. They also control better the volume of teaching staffs in comparison to similar organization having no medical schools inside (*Graham&Diamond, 1997*).

Researchers and scientists in universities look to push up their ideas up to application and finally to markets. Many universities in the world today develop the model of scientific parks, research parks, technology incubators, innovation centers, technology transfer/technology licensing organizations and other similar structures. Some successful models can be listed for illustration purpose: Stanford Research Park (Stanford University), Cambridge Science Park (Cambridge University), Austin Technology Incubator (University of Texas), University's Innovation Centre (University of Manchester), TTO (University of California, George Washington University), TLO (Kyoto University) and etc.

High openness

In their nature, universities are different from enterprises and administrative organizations (*Wang, 2001*). Universities themselves look for various supporting channels but, in general, universities are not passionate with research projects planned prior because, as researchers, they prefer projects of discovery nature.

Research Universities have to create suitable, free and open environments where students, professors, administrators and members treat each other on equal basis and they can exchange ideas without limits. Research Universities need to be open to external worlds and oriented to spirits of social service. Management and decision-making procedures need to have high levels of openness and transparency (*Wang, 2001*).

High spirits of criticism

Spirits of criticism is the key natural feature of universities. Every university can do better than any other organization in providing a tolerant and open environment in order to promote the critical mindset (*Wang, 2001*). This is highly right for Research Universities. During the whole history of development, universities in the world fight for civilized social structures, development of science and social progress. Actually, universities remain the most important organizations with high critical mindset in the society. University is "a monitor" of the civilization of human.

Inclusivity

Universities are more inclusive than any other social institution. This is seen through: (1) Universities, in their nature, enclose large scopes of interests including natural sciences, social sciences and humanities, traditional and new disciplines, and even old disciplines without practical values and new discipline not largely recognized yet (*Wang, 2001*).

Therefore, in order to increase higher the inclusive and integrated nature of Research Universities it is necessary to add regularly new programs, even to set up new research orientations or new research centers and to encourage inter-discipline research programs; (2) All people, what ever their political orientations, religion, race, nationality, gender and age, can find their place in university communities (*Wang, 2001*).

Universities provide an indulgently accommodating environment for those individuals which have some specific natures and/or thinking methods said abnormal. They may remain in universities to follow the verities, in their mindset, in their ways (the typical example is the case of economist J. Nash (University of Princeton) - the founder of game theory).

Democracy in university administration

Universities, in their nature, are the most democratic organization in the society. Units of service and departments of various disciplines are linked to form an university. Even now when these departments get linked closer, every discipline has its own language, models, visions, culture and values. This feature makes universities highly different from enterprises or government organizations.

Another difference between universities and enterprises or government organizations is that professors do not consider themselves workers which are required to be subordinate to chairmen or management staffs. With their roles as labors with specific knowledge status, they only have liabilities to students and verity values. All the decisions related to academic matters have to be implemented by lecturers or representative bodies of lecturers such as Scientific Councils or similar units. Only on these forums, cultural values and norms are to be debated and get respected (*Wang, 2001*).

The quality of an university is proportional to the democratic administration schemes and the involvement of lecturers in decision making process. One of the important steps to build up a Research University is to establish the concept of missions of the university combined with a democratic decision making process. Also, rights and duties of lecturers and students have to be clearly identified.

High level of internationalization

It is clear that famous Research Universities recruit leading professors and select best students from all the corners of the world⁴. Research Universities

⁴ For example, by 2009, London School of Economics and Political Science (LSE) had 79% of its students coming from other countries, ETH Zurich had 36% and MIT had 26%. Particularly, international students of LSE came from more than 140 countries of the world (*Lee, 2013*).

pay particular attention to international doctor students and look for the best knowledge to make contributions to their various research programs. These research programs, in practice, should be part of their studies for doctor grade thesis. Also, many universities develop cooperation projects which are rather research programs than activities where simply diplomas are conferred. This type of cooperation projects which are held with overseas leading organizations are the way to extend their circle of influence and knowledge capitals without needs to build up their own facilities in other countries (*Mohrman et al., 2008; Sidhu, 2009; Lee, 2013*).

However, this problem is dually difficult for developing countries. When certain universities want to become Research Universities, they need to follow quality standards applied by Research Universities in Western countries. Here the paradox is that when these universities come up closely to Western standards graduated students look for chances to leave their own countries for better countries. This brain drain is part of a global picture of international exchanges in field of higher education. Large public communities might put a question if it is a wise policy to make strong investments for development of universities to turn them to preparatory classes of Western universities.

There is no easy answers for this question. We need to treat this question under vision of the crucial nature of modern universities and long-term national interests. A Research University has to be an internationalized university. An university which does not have international environment or taste has no way to be a Research University in its right senses.

Diversified support sources

The development of Research Universities requires very high costs of investment (*Altbach, 2007*). Even in top ranked rich countries the efforts to maintain high quality programs in numerous fields make problems with numerous challenges. In the US, for example, public universities receive only 10-15% of needs for operational costs from State governments. When the governments are found incapable of meeting the needs, universities are required to call for funding sources through various strategies including private support sources, higher tuition fees, research support funding, technological innovation funding, additional incomes from S&T businesses, contracts with businesses, higher tuition schemes from international students and etc.

Diversified cooperation programs

In the 20th century, universities conducted their activities mainly within national limits. Actually, however, the scopes of activities of universities, particularly Research Universities, are extending beyond national borders.

The development of international associations of universities shows well the inter-dependence of universities through programs of trans-national activities. One of the most well-known multi-national organizations is the EU “*Erasmus Mundus*” which is an initiative of cooperation and mobility to push EU to become a center of excellence for learning in the world. There are so many benefits for member organizations, namely: share of information, establishment of official programs of exchange of students and lecturers, improvement of access to international resources, favorable conditions for research cooperation and provision of global trends for learning programs. Global organizations provide also an international-scaled format of certifications and considerable prestige for member universities.

In addition to international cooperation, the domestic scope of cooperation is found also important. Here, the “triple helix” model is developed to promote the effectiveness of this new link between higher education, industries and government authorities (*Etzkowitz & Leydesdorff, 1998*).

5. Conclusion

In summary, the Research University is a model of universities in the contemporary society which many nations and universities are willing to develop. However, at certain extend of development, strong sources and a clear national institutional environment are required to follow this model. On basis of available resources including the ones of universities and State budgets, and existing institutional environment of national policies, decision makers for development of science, education and universities (which are willing to become Research Universities) should provide suitable policies and measures to ensure the successful development of this model of universities./.

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