CHALLENGES AND OPPORTUNITIES FACING ACADEMIC INSTITUTIONS IN ASIA PACIFIC

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ABSTRACT

This paper describes various challenges and opportunities facing academic institutions specifically in Asia Pacific region.

1. INTRODUCTION

Communications and Information Technology (IT) provide opportunities. At the same time they also create challenges. While the issues are global issues, this paper attempts to focus on the role of academic institutions, which are physically located in the Asia Pacific (AP) region.

Communications and IT create a level playing field for AP communities. Resources or information that are used to be difficult to get, such as new books, reports, or journals, are now available online on the Internet. This is an opportunity that we cannot miss.

The new businesses created by Communications and IT are said to be based on a "new economy", or some say, "bubble economy" [1]. This new economy is not emerging anymore. It is already here, as reported in [2].

New economy depends on intellectual property, sometimes in the form of knowledge. The best place to find these is in academic and research institutions

2. SOME CHALLENGES IN COMMUNICATIONS AND IT BUSINESS

IT businesses face some challenges, such as capital, work force, ideas, and entrepreneurship. In this section we elaborate those problems. Due to the limited space, we do not touch other issues such as the lack of standards, (cyber) laws and government support.

2.1 Lack of capital

As in other business, capital is one issue that must be addressed by a business entity. The Internet has reduced the barrier for some types of businesses and even introduces new businesses. Some of these businesses still require a large amount of capital, while others can be done by small and medium enterprises. In the world of IPO, angle investors, venture capitals, and conventional banks, capital should not become the major concern [3].

2.2 Inadequate work force

The lack of world-class human resources is a bigger problem compared to capital problem. Let us assume that there will be fifty (50) high-tech communications and IT companies in our area. These companies are small and only require ten (10) workers for each of the company. A simple calculation yields 500 workers. Where do these companies get them? Local universities can only supply a fraction of them.

The lack of work force problem is not a local problem. Witness the same problem is occurring even in Silicon Valley. Even with the large number of temp workers, they are not enough to fill the demand. Other develop countries are also competing to get the best workers. This has resulted in the high salary for high tech workers.

2.3 Lack of brilliant ideas

Businesses in the new economy are based on intellectual property. It is said the the very foundation of current business is idea. How do we generate and get novel ideas, not just "me too" ideas? Aren't all good ideas taken already?

2.4 Entrepreneurship

Entrepreneurship is an ingredient, which separates success and failures. Unfortunately, many bright people do not have the spirit of entrepreneurship. Many academic institutions have not acknowledged the need for entrepreneurship.

3. THE ROLE OF ACADEMIC INSTITUTIONS

In this section, we attempt to address the role of academic institutions facing challenges illustrated in earlier section.

3.1 Capital

There is a stereotype that academic institutions are said to be poor. While this may be true for some, it cannot be generalized to all academic institutions. Some academic institutions, especially private ones, have endowment fund that can be invested in various business opportunities. Most academic institutions also have strategic business units, which can deal with business requirements. Thus, while capital is still a problem, it should not be the critical problem. It is like oxygen. Yes, we need it, but having it is not a competitive advantage.

3.2 Attack on work force problem

The second problem, work force, is the core business and responsibility of academic institutions. Asia Pacific universities are famous for producing high quality graduates. An example would be India universities who are famous in generating software experts. They are employed by companies world wide. The trend is shown in other AP universities.

The number of graduates formal universities can produce is limited. Recall a simple calculation done earlier in section 2.2. To produce a large pool of talented work force, formal education must be supplemented with informal and continuing education.

In AP region, people are concerned with formal degrees. This cultural problem looks down on educational entities that do not provide formal degree. This is a barrier we have to remove. Even Bill Gates does not have a formal university degree.

3.3 Academic institutions as idea labs

Universities are full with bright and creative people. It is not rare that successful companies are started from universities. Witness successful companies which are started from universities, such as Sun Microsystems, Cisco, Yahoo!, Google, and the list could go on and on. Even the Internet itself is started at academic and research institutions [4]. Thus, no doubt that academic institution is an important ingredient in communications and IT industry. Education and industrial link should be fostered.

Tapping into the creativity in university may require a different approach. Out of the box and freethinking should be allowed and encourage in academic institutions. AP universities are usually a bit behind in this area. The gap between professors and students or researchers is usually larger than that in North American universities or research centers.

3.4 Entrepreneurship in academic institutions

Many academic institutions in AP region used to frowned upon businesses supported by faculty members. While many have changed the view, only a small number actually provide pro-active support.

Entrepreneurship is now becoming a formal education as witness in Stanford University. Some universities are starting to encourage their faculty members and students to put more attention in entrepreneurship.

4. INITIATIVES IN INDONESIA

While as a country Indonesia is not (yet!) recognize as a world-class leader in communications and IT, individually Indonesians have contributed in IT industry. Unfortunately, there is a lack of information about Indonesia's involvement in the communications and IT area.

As in many other countries, the "dotcom" fever is also in Indonesia. Internet portals are mushrooming. Popular web sites include detik.com, astaga.com, satunet.com, and so on. These new businesses are also facing the same challenges mentioned earlier.

The following is a partial list of initiatives that have been done, are in progress or underway.

- Creating pool of funds attacks capital problem. Local venture capitals are becoming available, while VCs from outside of Indonesia are more visible. Internet portals in Indonesia have attracted local and outside Indonesia investors. Millions of dollars have been pumped into this area. Venture capitals are scouring for ideas (especially from top universities and their faculty members) on regular basis.

- As an attempt to solve the need for world-class work force, the quality of education is increased by adopting international standard, e.g. ABET. QUE and DUE initiatives are carried out at universities in Indonesia.

- The use of Internet, intranet, and campus networks is becoming popular. Some universities have deployed high-speed campus backbone. Courses are becoming available online in the preparation for distance learning or virtual university. The approach is not only limited to universities, but also to high schools and below with a program called "Sekolah 2000" (or School 2000)[1]. However, we believe that more commitments and efforts are still needed.

- New approach in education is also being attempted. For example, ITB is now co-running a graduate study programme (in IT) with an IT industry (business entity) in Cikarang (a city close to Jakarta). In this new programme, students will be assisted in creating and running their own company during their study. When they graduate, not only they get their degrees, but they also get their own companies. This initiative

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[1] Sekolah 2000 web site http://www.sekolah2000.or.id

also attempts to take a stab at entrepreneurship in academic institutions.

- In attempt to protect ideas, people are more educated in Intellectual Property Rights (IPR). In our campus at ITB, we have started an IPR office, which can help promoting and protecting technologies developed by ITB researchers. Incentives and grants are also available for researchers to patent their ideas.
- Cyber law initiatives are spearheaded by two universities; Universitas Indonesia (UI, Jakarta) and Universitas Pajajaran (UNPAD, Bandung). Various government agencies and technical universities (such as ITB) are also involved in this initiative.
- There is the "Bandung High-Tech Valley" (BHTV) initiative[2], which is aimed to create condusive environment for (high-tech) businesses. Bandung is a special city in Indonesia in which many research centers and office of high-tech companies are located. Many talented students in Indoensia go to universities in Bandung. Industries, government agencies, and academic entities are in synergy in driving this common goal.
- InterUniversity Research Center on Microelectronics (IURC-ME) is now running a product oriented national strategic research (called *RUSNAS*) in IT and Microelectronics. It will deal with a complete range of product research, development, production, marketing, sales, and even after sales. *Techno-clusters*, which are combination of all stakeholders (from R&D down to sales) in the product, are being developed in each product. This year, the focus is on wireless Internet system, radio Sonde, and free office / software components.

While the above is not an exhaustive list, it should give the reader a glimpse of what are being done in Indonesia. The high pace of communications and IT force us to develop and execute more initiatives.

There are obstacles that we have to face, such as inadequate telecommunication infrastructure, high cost of telecommunication, lack of standards and political instability. We believe that we can tackle these obstacles.

5. CONCLUSION

Asia Pacific communities have tremendous opportunities in this new economy era. We cannot miss the boat and face the challenges. Collaboration among AP academic & research institutions and industries are needed more than ever.

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² http://indonesia.elga.net.id/bhtv

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