HIGHER EDUCATION REFORM THROUGH ASIA PACIFIC NETWORK IN INFORMATION, COMMUNICATION AND TECHNOLOGY

By:
Petrina Faustine
Kadarsah Suryadi

Introduction

Human beings who are loaded with knowledge, information and technology, will generally think, work and communicate towards better productivity, contextual understanding, know-how, and network. These traits are enablers for transformation from merely human beings into knowledgeable human assets. As human assets, they need to be more broadly understood as the subjects who facilitate the creation of personal, social and economic well-being, aim for a wider scope of well-being rather than just of personal, can also be broadened into nations in a regional basis, in this case in Asia and Pacific region.

From the above perspective, it can be very well understood that Higher Education Institutions (HEI) play a very significant role in their paving the roads, as well as to be the contributors in the creation of knowledgeable human assets for the nation. Therefore, it is very essential that HEI to keep updating themselves, in the new knowledge era, where information, communication, and technology (ICT) take a great role in enhancing knowledge, as well as in the ways teaching and learning are executed in HEI.

Motivated by the historical context of its evolution and growth of the Information Society in the Asia and the Pacific region, UNESCO established Regional Observatory of Information Society in Asia and the Pacific (ROISAP), to provide accessibility, applicability, also action plans and policies, as well as content regulation, in disseminating authentic and true information. Thus, it can be hoped that education, social and cultural life of individuals in Asia and Pacific will be enhanced, as well as interconnected through ICT embedded in individuals, known as knowledgeable human assets as the outputs of HEI.

Unavoidable ICT in Higher Education Institution

Bill Gates quit a reputable HEI in United States of America, as soon as he realized that he could not get what he needed from the curriculum offered by the HEI. In just a couple of years after he left university, he changed the world in many aspects: in the way we do business (e.g.: e-commerce, e-banking, e-marketing, spreading of Asian crises in less than one month everywhere); in the way we communicate (e.g.: on-line chatting; virtual conference; sending sms messages in just a glance of eyes); including the way teaching and learning is executed (CDROMs self learning, Distance Learning).

The breakthrough has been bringing so many multiplying impacts in life, either culturally or socially, as well as educationally. The striking evidences have awaken many of HEI researchers to realize and to react on how rapidly the information and technology influence immensely over islands and continents, to understand that today’s forces of digital information and technology (I&T) create a constant change on almost any environments, and as fast as it is in HEI I&T at the tactical level becomes visible in the design of work processes in the organization (Hertog&Huizenga, 2000).

Teaching-learning, as the process of knowledge transfer are both to be assured adequately, to enable strong interwoven with the primary process, thus the use of I&T enhance organization’s reaction speed, through:

- Automations of data-intensive tasks
- Change a series of tasks in teaching-learning process
- Making a process independent of geographical and organization barriers
- Eliminations of process steps.

In the interwoven, human capital is the most important actor in delivering knowledge, skills, competencies and attitudes embodied in individuals that facilitate the creation of personal, social and economic well-being (OECD, 2002). The trouble is that people know more than they are conscious of, or can put into words about what they know. Therefore the concept of information is fuzzy, as was said by radical notion: information can sometimes be meaningless and of low value (Sveiby, 1997).

ICT in Creating Knowledgeable Human Assets as the Wealth of Nations

Information is: when people speak or write, use language to articulate some of the tacit knowledge in an attempt to pass it on to others. Information is then perceived as data collected from a consequence of observations.

Dr. Petrina Faustine, MM, MSc., Lecturer, Researcher, Coordinator of ROISAP (Regional Observatory of Information Society in Asia and the Pacific) A Cooperation of UNESCO and Widyatama University (Bandung – Indonesia)

Dr. Kadarsah Suryadi, Lecturer in ITB, Vice Rector of Widyatama University, Coordinator of ROISAP
A collection of information and rules (algorithms) that can be used to fulfil a certain function, then in this sense it is called knowledge (Hertog & Huizenga, 2000). The carrier of knowledge has the role of knowledgeable human assets (KHA) in the development of nations has long been recognized and given a strong emphasis. Recent empirical work paper presenting growth regressions, using primary and secondary enrolment rates in the 1960s as explanatory variables of the subsequent growth performance of a cross-section of Nations (Barro, 1991). It shows that investments in education benefit and increase the general level of knowledge in society. This research was an extensive OECD project of its 20 member countries on KHA, which revealed clearly that economic performance and KHA have been positively correlated in OECD countries. Thus, improvement in KHA has been one of the key factors of economic growth. To affect gross domestic product (GDP), although it can not reflect various aspects of human well beings such as enjoyment of civil liberties, relative freedom from crime, a clean environment and individual health (OECD, 2002). Nevertheless, growth in economic out put not only provides the resources for tackling social exclusion, poverty and poor levels of health, but expands the range of human choice, which sometimes can overcome the problem of freedom from crime through financial ability in hiring security guards to enable protection against crime. These interwoven connectivities are rooted in the role of HEI in producing KHA.

HEI to Network Through ROISAP

Better education and social cultural knowledge embedded in the human beings become more and more important in the era of the speed of thought (Gates, 1999), it is due to the importance of KHA in producing personal as well as national welfare. Information and Technology well communicated becomes an urgency for the individuals as well as a nation to be well prepared for the future. Knowledge obtained through formal as well as non formal education to enhance human capital will continue to grow. The questions arose: can every individuals afford to obtain formal education to enhance his human capital? We understand that most of the countries in Asia and the pacific are densely populated, whereas ethical issues in the information that the income per capita is relatively low. Furthermore the access to the information technology is quite expensive due to the distance, as well as the setting up of the infrastructure.

HEI as the inputs givers to the National Observatory in each of Asia and Pacific countries, are looked forward to networks among each other through the available ROISAP. Are HEIs willing to contribute positively toward the inherent dynamic growth of ICT, to network, benchmark, and develop ourselves through competitive way of collaboration, to produce more accessible, applicable ethical information, to trigger individuals well being on one hand, and enhancing the quality of KHA on the other hand?

References


THE ROLE OF GALLERY OF STOCK AND COMMODITY EXCHANGE IN BRIDGING THE GAP BETWEEN THE INDUSTRY AND ACADEMIES

Meliala, Janita S. ; Rafael G. Aida Wijaya

ABSTRACT
Capital market has a significant value in economic development. Investment activities in the stock market in Indonesia are still in preliminary stage and have not reached the intended objectives. One of the problems is the lack of information and lack of knowledge in the society. This was caused by the limitation of knowledge dissemination from the stock market itself. The academies seem not ready to face the fast changing industry. It is proved by the curriculum that focuses mainly to the conservative economic knowledge such as banking or insurance. This caused a gap in competence between industry expectation and academic perception. One of the many programs that could bridge the gap is to bring the industry into campus, such as having a gallery of stock and commodity exchange, which facilitates the students to have knowledge and practical skills. To do continuous quality advancement, it is important to evaluate whether our programs in the stock and commodity exchange corner at Widyatama University (active in 2004) could raise the knowledge and practical skills of our students. So we surveyed and compared two groups of students, to find out how far the differences of knowledge between students who are actively involved in it and who are not. And describe whether the programs in the stock and commodity exchange corner could sufficiently give value added to the students.

Keyword: stock and commodity exchange corner

INTRODUCTION
Emerging multidimensional phenomenon today is globalization. In this globalization era new rules have been created and the key factor to succeed would be different from the past era because there would be a real tight competition in every aspect of life. There would be rapid development in both individual and formal organization. One who could not keep in line with it would be far left behind. To be able to compete, the organization and the individual should develop themselves accordingly. In this condition it is clear that professionals and alumnus need some new capabilities, which were created by the global environment, they should have competitive advantages such as the capability in competing efficiently and effectively in global scale, as well as being flexible and responsive in the national scale.

Based on the study conducted by International Federation of the Stock Exchanges in 1998, toward the third millennium, the orientation of world capital market developments is to create a liquid and efficient capital market. Therefore, the capital markets worldwide tend to improve issues related to disclosure, market infrastructure, clearing and settlement of transaction, type of traded instruments, services, and technology.

In 1998, Indonesia suffered from exceptional deep recession. However, during 1999 the crisis has moderated and economic indicators begin to suggest signs of recovery. The development of the Indonesian economy for the coming years will be characterized by the on going effort to achieve full economic recovery and the anticipation of the era of a free trade area.

In capital market sectors, the worsening of economic conditions in 1998 has had an impact on the degradations in the performance of the Indonesian capital market. This degradation in performance brings about losses to investors and who consequently take their funds out of the Indonesian capital market.

The monetary crisis has also caused a delay in the development of capital market infrastructure. The development of the Indonesian capital market infrastructure to meet international standards requires substantial investments.

Globalization and free trade era has forced the industry to have up to date information in every aspects. The development of information technology accelerates development in capital market industry.

Furthermore, to ensure orderly and safe capital market activities, adequate internal control system, accounting system and information system should be applied.

In addition, the back office system of the participants of capital market industries is expected to develop such that it can support all transactions.

To improve the quality of capital market industry services, the capital market is expected to perform its activities efficiently, safely and orderly. One factor that can increase efficiency of capital market activities is qualified human resources. Therefore, that factor should be an important concern for the operation of capital market.
There are two factors in the vision of the Indonesian capital market: first, to develop strong Indonesian capital markets as the activator of the national economy. Second, the Indonesian capital market should be competitive in the global environment. The achievement of this vision depends on many factors. One of them is the role of capital market institutions in achieving the Indonesian capital market missions, which will be focused mainly on the recovery and the development of market participants. The development of the Indonesian capital market is directed toward the improvement of aspects that will increase the capital market value in global competition, including secondary market efficiency, disclosure, human resources, regulation and law enforcement.

To realize the visions of the Indonesian capital market as mentioned there are several targets should be met, one of them is the implementation of integrated education in capital market knowledge. Integrated education should be available so that human resources will have the necessary expertise and conducts to act professionally and with high integrity. Market participants should organize education professionally.

Lack of qualified human resources is a serious threat to the Indonesian capital market industry, because it is the central of every activity in the business. Today human resources is not merely a component of company cost, instead it has an important role in strategic development of industry. There should be serious concerns in accelerating the improvement of human resources; therefore it would not be too far behind the modern technology that has to be implemented in the capital market industry. The quality as well as quantity of education programs to increase the capability and knowledge of human resources should be considered as a profitable investment to the development effort of the Indonesian capital market.

Human resources education will require substantial cost, therefore, it has to be carefully planned and carried out by all the capital market participants. The integrated planning can be done through cooperation among the capital market participants and universities in Indonesia, both through informal and formal education. The program is also expected to drive the capital market education and socialization for the public. Furthermore, this program is expected to provide various packages regarding comprehensive teaching and training programs, including remote training program that enable participation of potential human resources from many regions. Therefore, human resources availability in capital market sector will be spread out all over Indonesian and will bring a result in wider reach toward potential issuers and investors that are also spread out in many regions in Indonesia.

**HYPOTHESIS**

The hypothesis is: there is a difference in level of knowledge between member of SCEC and non-member of SCEC concerning capital market knowledge.

**METHODOLOGY**

- This observation measures the difference of capital market knowledge between students who are the members of SCEC and who are not. We chose randomly from those two groups and we measure them with questionnaire instrument, which consists of 20 questions. Every right answer of the questions are scored between 1 and 5 to measure their rate of assurance of their answers, with the scale as this: 
  
  5 = very assured; 4 = assured; 3 = doubted; 2 = less assured; 1 = not assured.

  - The maximum score a respondent could have is 100.
  - That maximum score of 100 is then divided into 5 ranks, to measure their understandings concerning capital market industry knowledge, with ranks as this:

  0 – 20 Do not have any knowledge
  21 – 40 Do not have enough knowledge
  41 – 60 Have enough knowledge
  61 – 80 Have knowledge
  81 – 100 Have very much knowledge
THE 5th SEA AIR ANNUAL CONFERENCE; Bali, September 14-16, 2005
Track 1: Strategy & Policy Analysis

- Sample 1 (group 1) = members of the SCEC (X1) = 30 persons
- Sample 2 (group 2) = non-members of the SCEC (X2) = 30 persons (students not less than the 5th semester)

HYPOTHESIS TEST
The hypothesis is there is a difference in knowledge between member and non-member of SCEC concerning capital market industry. We use t-test method for two independent samples (groups). The purpose of the test is to compare/to differentiate the two groups, to find out whether there is a difference of level of knowledge or not.

1. The hypothesis is:
   \( H_0 : \) There is not any difference of knowledge between member and non-member of SCEC concerning capital market industry
   \( H_a : \) There is a difference of knowledge between member and non-member of SCEC concerning capital market industry

2. Statistic model hypothesis
   \( H_0 : \mu_1 = \mu_2 \)
   \( H_a : \mu_1 \neq \mu_2 \)

3. Calculating average score, deviation standards, Varian using the formulas:
   1) Calculating average score \( (\bar{X}) \), deviation standards \( (s) \)
      \[
      \text{Formula} = s = \sqrt{\frac{\sum (x_i - \bar{X})^2}{n-1}} \quad \text{and} \quad \bar{X} = \frac{\sum x_i}{n}
      \]
      Result:
      \( s_1 = 9.69 \) (Standard deviation of Member of SCEC)
      \( s_2 = 11.51 \) (Standard deviation of Non-Member of SCEC)
      \( \bar{X}_1 = 69 \) (Average score of member of SCEC sample)
      \( \bar{X}_2 = 50 \) (Average score of non-member of SCEC sample)

   2) Finding \( t_{hiung} \) with formula:
      \[
      t_{hiung} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} \quad \text{so} \quad t_{hiung} = 6.92
      \]

   3) Determine \( t_{table} \) with:
      Significant degrees \( \alpha = 0.05 \), degrees of freedom (DF) = \( n - 1 = 30-1 = 29 \).
      So the score of \( t_{table} = 2.045 \)

4) Determine criterion of test:
   If \( -t_{table} \leq t_{hiung} \leq +t_{table} \) so \( H_0 \) is accepted and \( H_a \) is rejected.

5) Comparing between \( t_{hiung} \) with \( t_{table} \)
   It appears: \(-2.045 < 6.92 > 2.045\), so the \( H_0 \) is rejected and the \( H_a \) is accepted.

6) Conclusion:
   \( H_0 : \) There is not any difference of knowledge between member and non-member of SCEC concerning capital market industry has Rejected
   \( H_a : \) There is a difference of knowledge between member and non-member of SCEC concerning capital market industry has Accepted

So, the level of knowledge of the SCEC member concerning capital market industry is higher than those who are not the member of SCEC. And it can be applied to the population.
QUANTITATIVE FINDINGS

Table 1 here shows the score from the answers of the questionnaire from the members of the SCEC, whereas Table 2 shows the result from the non-member of SCEC.

Table 1. Answer Score of Members of SCEC Respondent

<table>
<thead>
<tr>
<th>No. respondent</th>
<th>Score</th>
<th>No. respondent</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>80</td>
<td>16</td>
<td>53</td>
</tr>
<tr>
<td>2</td>
<td>76</td>
<td>17</td>
<td>55</td>
</tr>
<tr>
<td>3</td>
<td>77</td>
<td>18</td>
<td>54</td>
</tr>
<tr>
<td>4</td>
<td>65</td>
<td>19</td>
<td>80</td>
</tr>
<tr>
<td>5</td>
<td>79</td>
<td>20</td>
<td>83</td>
</tr>
<tr>
<td>6</td>
<td>69</td>
<td>21</td>
<td>75</td>
</tr>
<tr>
<td>7</td>
<td>65</td>
<td>22</td>
<td>69</td>
</tr>
<tr>
<td>8</td>
<td>63</td>
<td>23</td>
<td>76</td>
</tr>
<tr>
<td>9</td>
<td>65</td>
<td>24</td>
<td>74</td>
</tr>
<tr>
<td>10</td>
<td>60</td>
<td>25</td>
<td>85</td>
</tr>
<tr>
<td>11</td>
<td>57</td>
<td>26</td>
<td>74</td>
</tr>
<tr>
<td>12</td>
<td>57</td>
<td>27</td>
<td>63</td>
</tr>
<tr>
<td>13</td>
<td>79</td>
<td>28</td>
<td>81</td>
</tr>
<tr>
<td>14</td>
<td>59</td>
<td>29</td>
<td>59</td>
</tr>
<tr>
<td>15</td>
<td>56</td>
<td>30</td>
<td>68</td>
</tr>
</tbody>
</table>

Table 2. Answer Score of Non-Members of SCEC Respondent

<table>
<thead>
<tr>
<th>No. Respondent</th>
<th>Score</th>
<th>No. Respondent</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>56</td>
<td>16</td>
<td>48</td>
</tr>
<tr>
<td>2</td>
<td>60</td>
<td>17</td>
<td>54</td>
</tr>
<tr>
<td>3</td>
<td>60</td>
<td>18</td>
<td>55</td>
</tr>
<tr>
<td>4</td>
<td>49</td>
<td>19</td>
<td>56</td>
</tr>
<tr>
<td>5</td>
<td>50</td>
<td>20</td>
<td>43</td>
</tr>
<tr>
<td>6</td>
<td>50</td>
<td>21</td>
<td>42</td>
</tr>
<tr>
<td>7</td>
<td>16</td>
<td>22</td>
<td>65</td>
</tr>
<tr>
<td>8</td>
<td>49</td>
<td>23</td>
<td>56</td>
</tr>
<tr>
<td>9</td>
<td>42</td>
<td>24</td>
<td>49</td>
</tr>
<tr>
<td>10</td>
<td>59</td>
<td>25</td>
<td>68</td>
</tr>
<tr>
<td>11</td>
<td>69</td>
<td>26</td>
<td>41</td>
</tr>
<tr>
<td>12</td>
<td>51</td>
<td>27</td>
<td>62</td>
</tr>
<tr>
<td>13</td>
<td>55</td>
<td>28</td>
<td>48</td>
</tr>
<tr>
<td>14</td>
<td>48</td>
<td>29</td>
<td>35</td>
</tr>
<tr>
<td>15</td>
<td>40</td>
<td>30</td>
<td>26</td>
</tr>
</tbody>
</table>

The lowest score from group 1 is 53 whereas the lowest score from the second group is 16. The highest score from the first group is 83; meanwhile the highest score from the second group is only 68. Those numbers show that the range of the first group is wider than the second group, it means the knowledge of students who is not the member of SCEC is more various, but the understanding is less than those who are the members of SCEC.

Table 3 shows the measurement of capital market knowledge in percentage for both groups.
Table 3. Measurement Scale of the Questionnaire Result

<table>
<thead>
<tr>
<th>Scale</th>
<th>Member</th>
<th>Non Member</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Percentage</td>
</tr>
<tr>
<td>0-20</td>
<td>-</td>
<td>0%</td>
</tr>
<tr>
<td>21-40</td>
<td>-</td>
<td>0%</td>
</tr>
<tr>
<td>41-60</td>
<td>9</td>
<td>30%</td>
</tr>
<tr>
<td>61-80</td>
<td>18</td>
<td>60%</td>
</tr>
<tr>
<td>81-100</td>
<td>3</td>
<td>10%</td>
</tr>
</tbody>
</table>

From the table we find out that:
- Most of the student members of SCEC (X1) have knowledge in capital market industry, with the percentage of 60% and the average score is 69. No members of SCEC that do not have or have a little knowledge about capital market industry. Whereas the respondents who have high degree of knowledge in capital market industry is 10%.
- Most of the students who are not the member of SCEC (X2) are having enough knowledge in capital market industry, with the percentage of 73% and the average score is 50, but there are students who do not have the knowledge (3%), 10% of them only have a little knowledge in capital market industry, and none of them has high degree of knowledge in capital market industry.

DESCRIPTION OF THE SCEC

INTRODUCTION

The stock and commodity exchange corner (SCEC) was established at Widyatama University in the year 1995-1996, but there were not many activities then because we did not have enough facilities from the institution (formerly STIEB) to support the human resources who run it and problems with long and inefficient bureaucracy. In the middle of 2004, the SCEC began its activities after passive for one year. Now it has 100 members of students from our faculties. The vision of Widyatama SCEC is to be the center of information, activities, and development in capital market industry, both stock exchange and futures, and be proactive to the economic and business development in the global environment with the utilization of technology.

The SCEC is also hoped to become an organization, which could supply the needs of industry, especially the capital market industry, of capable employees. The SCEC provides knowledge, skill, and the ability in working organization to the students, so that they will have enough capabilities to enter the real working world.

PROGRAMS OF SCEC

1. **Cooperation with security and futures exchange company**, where they can open their investment gallery in the SCEC. Through this cooperation the members of SCEC get training and education facility, and also there are chances to work in those companies.

2. **Seminars, simulation, and capital market and futures exchange study tour**. The aim of this program is to educate Widyatama University students in general and also the public. Through this program, the student members of SCEC are trained to have organizational capabilities and other skills including administration, communication, etc.

3. **Study groups**. Every members of the SCEC is included in one study group, where they are trained to read a lot, search information from newspapers, Internet, journals, and other medias, concerning capital market knowledge, economics, business, politics, and other information. It is hoped that the students will have a wide social insights and able to bring out their ideas in writings.

4. **Investment gallery of security and futures Exchange Company**. Through this gallery the members of SCEC could do simulation of investment in securities and futures. Furthermore, they could really invest in the investment gallery. Besides, the gallery of SCEC also provides many kind of information concerning capital market and some of public company financial statements.

CONCLUSIONS

1. There is a difference of level of knowledge between member and non-member of SCEC concerning capital market industry.

2. The average knowledge of the SCEC member is still below the expected. This might be caused that the members had not have enough trainings and education yet, since SCEC activities is only began in the middle of last year.
THE 5th SEA AIR ANNUAL CONFERENCE; Bali, September 14-16, 2005

Track 1: Strategy & Policy Analysis

3. The programs of SCEC enhancing the members' knowledge of capital market industry, that it is expected to bridge industry needs and the higher education institutions.

SUGGESTIONS
1. The members of SCEC still need a lot of trainings and educations concerning capital market industry to be able to meet the industry requirements.
2. Programs of SCEC must be realized effectively, according to each aim.
3. There must be commitment of the University to facilitate and support the activities of SCEC.

REFERENCES
Jakarta Stock Exchange, Pengetahuan Pasar Modal
Sugiyono, Statistika untuk Penelitian, Penerbit CV Alfabet, Bandung, 2002