

# University-Based Knowledge Product Outsourcing Model

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## *Abstract*

*Outsourcing is not new in this ever changing world. It refers to the process of subcontracting a process, such as product design or manufacturing, to a third-party company. Today, the IT outsourcing industry has matured. This paper highlights about outsourcing with emphasis on its scope of operation, importance and impact in the business process and industry in general. This paper describes the unique approach in a university-based knowledge product outsourcing. It presents a discussion on the different resources in the operation and management of the university-based knowledge enterprise. The inception stage in the development of the outsourcing model is also described in this paper. The outsourcing process model presented in this paper highlights the following: faculty and staff as the knowledge provider, infrastructure as the outsourcing facility, business sector as the knowledge seeker, University-based as the business process, and product cost and income as the sharing of limited practice of profession. This paper further describes the features in the development of an online knowledge product outsourcing as a platform for an innovative knowledge enterprise.*

**Keywords :** Business Process Outsourcing, Knowledge Product Outsourcing, Project Management, ICT in Education

## 1. INTRODUCTION

Outsourcing is not new in this ever changing world. It refers to the process of subcontracting a process, such as product design or manufacturing, to a third-party company (VentureOutsource.com, 2011). It plays significant impact to manufacturing and services (Bardhan and Kroll, 2003). It is simply the farming out of services to a third party. It is often used interchangeably and incorrectly with offshoring. Offshore outsourcing is, in fact, a small but important subset of outsourcing. It's where a company outsources services to a third party in a country other than the one in which the client company is based, primarily to take advantage of lower labor costs.

IT outsourcing clearly falls under the domain of the Chief Information Officer (CIO). But often CIOs will be asked to be involved or even oversee non-IT-related business

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process and knowledge process outsourcing efforts. CIOs are tapped not only because they often have developed skill in outsourcing, but also because business and knowledge process work being outsourced often go hand in hand with IT systems and support (CXO Media Inc., 2011). In 1989, essentially only one kind of outsourcing involving IT was available. Since then, the field has expanded significantly. IT outsourcing essentially began with “big bang” deals, or mega-deals, which consisted of outsourcing all of a company’s data center operations for up to 10 years. (McNurlin and Sprague, 2006) Today, the IT outsourcing industry has matured.

Business process outsourcing (BPO) is the outsourcing of a specific business process task, such as payroll, accounting, human resource and among others. It's often divided into two categories: back office outsourcing, which includes internal business functions such as billing or purchasing, and front office outsourcing, which includes customer-related services such as marketing or tech support. Information technology outsourcing (ITO), therefore, is a subset of business process outsourcing. (CXO Media Inc., 2011) While most business process outsourcing involves executing standardized processes for a company, knowledge process outsourcing (KPO) involves processes that demand advanced research and analytical, technical and decision-making skills. Less mature than the BPO industry, sample KPO work includes pharmaceutical research and development, data mining, and patent research (CXO Media Inc.).

Knowledge Process Outsourcing is a “higher, more complex and more mature” form of business process outsourcing which entails intellectual capability, analytical skills and expertise of the workforce. Knowledge outsourcing usually occurs when the firms need knowledge that does not exist within the firm (Rundquist & Halila, 2010). This workforce includes professionals and scholars from different fields such as legal, engineering, marketing, research, pharmaceuticals, healthcare and education who are qualified and experienced enough to take the tasks (ArticlesBase.com, 2011). Lam & Chua (2009) concluded that knowledge outsourcing takes place when knowledge is generated by providers external to the organization, typically under some specific contractual involvement and agreement wherein the knowledge tends to be more narrowly focused and specific to a problem area.

After challenging India for the top position for several years, the Philippines is now the world leader in business support functions like shares services and business process outsourcing, according to the latest reports and trends analyses (INQUIRER.net, 2010). However, Knowledge Product Outsourcing in the Philippines is relatively new. According to Neerai Jain, country director for ADB-Philippines, the BPO industry is moving higher to software research and development and to knowledge product outsourcing, and we have to

supply the needed talents for this sector (The Outsource Blog, 2011) KPO companies in the Philippines established success in the area of animation and content development while Russia intends to be an outsourcing ground for medicine and technology-related KPOs. The Philippines exudes a considerable amount of potential. It has proven to be one of the top countries to dominate the incessantly growing industry when Manila, the capital, was hailed as the second top BPO destination in the Asia-Pacific region by the International Data Corporation in 2008. On the same year, it also garnered "Offshoring Destination of the Year" title by the United Kingdom's National Outsourcing Association. Furthermore, three of its cities; Quezon City, Cebu and Davao ranked 7th, 8th and 10th, in the "Top Ten Asian Cities of the Future" in the survey conducted by the London Financial Times (ArticlesBase.com, 2011).

### **1.1. Knowledge Economy and Knowledge Model**

For the last two hundred years, neo-classical economics has recognised only two factors of production: labour and capital. This is now changing. Information and knowledge are replacing capital and energy as the primary wealth-creating assets, just as the latter two replaced land and labor 200 years ago. In addition, technological developments in the 20th century have transformed the majority of wealth-creating work from physically-based to "knowledge-based" (Riley, 2003). Technology and knowledge are now the key factors of production. With increased mobility of information and the global work force, knowledge and expertise can be transported instantaneously around the world, and any advantage gained by one company can be eliminated by competitive improvements overnight. The only comparative advantage a company will enjoy will be its process of innovation--combining market and technology know-how with the creative talents of knowledge workers to solve a constant stream of competitive problems and its ability to derive value from information. We are now an information society in a knowledge economy where knowledge management is essential (ENTERWeb, 2005).

In this economy of knowledge, many workers focus on the production and management of knowledge in the frame of economic constraints, or to a knowledge-based economy. A key concept of the knowledge economy is that knowledge and education (often referred to as "human capital") can be treated as one of the following two: 1) a business product, as educational and innovative intellectual products and services can be exported for a high value return; and 2) a productive asset (Drucker, 1969). Knowledge economy can be defined as the concept that supports creation of knowledge by organizational employees and helps and encourages them to transfer and better utilize their knowledge that is in line with company/organization goals (TutorGig.com, 2009).

Tarn and Chien-Chih (2012) proposed a knowledge outsourcing model that consists of a four-mode responding to four managerial questions and eight criteria to determine whether, what, and how to conduct KO. The model consists of four modes, named knowledge allocation, enlargement, trade, and initiation. Example KPO services as offered by OmniscientEntrepreneurs includes: a) Architectural drawing development works, limited to the project size; b) Development of working drawings from architectural theme drawings; c) Structural drawing preparation works from the structural designs done by another structural designer; d) Structural design works for architects/engineers/turnkey contractors/builders & many others; and e) Providing estimation & costing works to architects/engineers/contractors/turnkey contractors/builders & planners.

## **2. SILLIMAN'S MODEL ON KNOWLEDGE PRODUCT OUTSOURCING**

In 2008, Silliman University formulated the Silliman Strategic Plan for 2008 – 2016. On Action to E-Learning, the university strategically established the Silliman Online University Learning (SOUL). SOUL, as coined by its School President Dr. Ben S. Malayang III, is the use of modern Information Technology generally aimed to expand its commitment to total human development for the well-being of society and environment. The acronym SOUL conveniently stands to its mode of learning wherein Silliman is the owner, Online is the mode of delivery, University is the level of content and Learning is the product conveyed. Ultimately, it aims to acquire and deliver learning and trade products remotely, mainly through cyberspace while maintaining and upholding the mission and vision. SOUL is designed to serve as umbrella program to three (3) major services. These are: Virtual Classroom, E-Learning (categorized into Online Programs & Online Tutoring) and Knowledge Product Outsourcing (Marcial, 2010).

Knowledge Product Outsourcing in Silliman University is a school-based product outsourcing. It is an online trading of knowledge products such as technical advice for incubating business, research outsourcing, training and tutorial services. It is an outsourcing learning management system that aims to trade knowledge products online. This system caters small businesses like the Small & Medium Enterprises (SMEs), small government units like the Local Government Units (LGUs) and small organizations like public offices and non-government offices (NGOs) who aspire to acquire professional consultancy online from Silliman University, as a supporting knowledge repository. According to the post-Newtonian university concept of Dr. Ben S. Malayang, III, there is a need to repackage knowledge in schools, giving value to local sensitivity and applicability. This is where professors can share their expertise with the business and public sectors following a

Knowledge Product Outsourcing scheme, providing technical assistance and advice on capability enhancement and management of systems and processes, among others (SU NetNEWS, 2008).

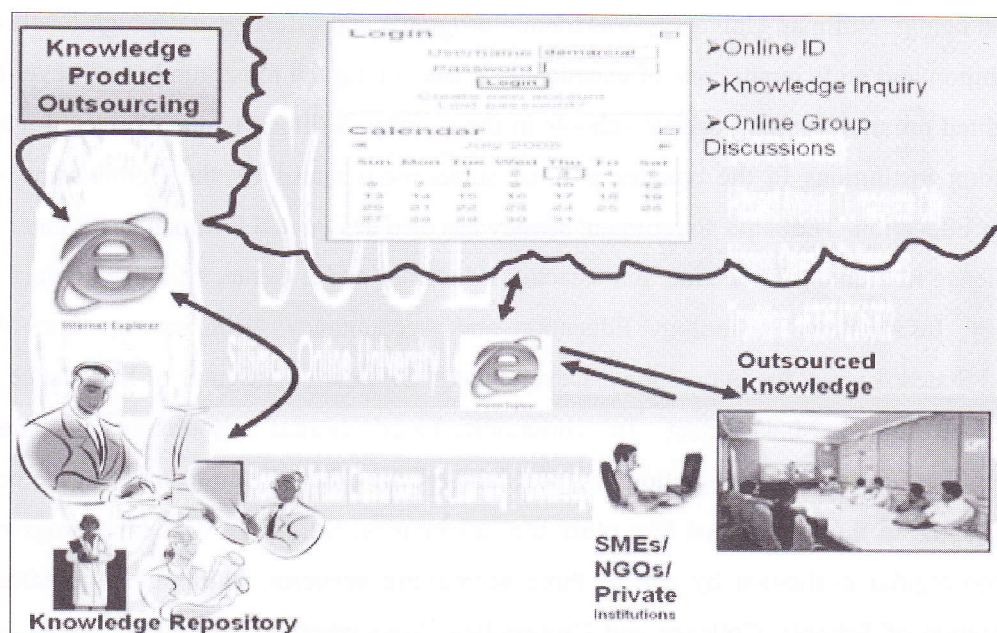


Figure 1. Knowledge Product Outsourcing Model

Figure 1 shows the process model of the Knowledge Product Outsourcing in Silliman University. When a stakeholder like SMEs, NGOs or private institutions would want to acquire any form of knowledge from the university, they must get connected to the internet. This inquiry will then be processed by an automated system to determine and filter this out for distribution to the most qualified knowledge provider/s, the faculty or staff in the university. It is in this stage wherein knowledge providers will process the intended product and once done, the knowledge product will be uploaded to the online system.

## 2.1 The University as the Knowledge Economy

As defined, knowledge economy refers to the supports of creation of knowledge by organizational employees and helps and encourages them to transfer and better utilize their knowledge that is in line with company/organization goals. It is vital that the product to be transferred is in accordance to the organization's vision and mission. Most importantly, it is also necessary that the organization shows credibility and prestige. Silliman University has had a long history and institutional presence in the Philippines. It is located in Dumaguete City, Negros Oriental, Philippines. It has prestige and identity in the country. It has a large portfolio of degree and non-degree programs and offerings with 31 undergraduate degrees,

23 graduate degrees, various diploma and certificate programs in basic and tertiary education, various short-term training and summer institutes, athletics and sports, cultural, research, extension, co-curricular programs to affirm the virtues of persons and Creation, and co-curricular programs to promote the value of life and fellowship with all persons and created beings. Silliman University's academic programs and offerings have high levels of recognition and wide reputations of excellence. It has among the most number of Level III accredited programs among private schools in the country. Silliman is one of select higher education institutions in the country granted autonomous status by the Commission on Higher Education. The same government agency has also designated Silliman as a Center of Excellence in Nursing Education and Teacher Education and a Center of Development in Biology, Information Technology Education and Accountancy. With support from the United States Agency for International Development, Silliman is a Center of Excellence in Coastal Resource Management. Its community-based coastal resource management program has inspired the recognition of Apo Island off the town of Dauin as one of the best diving spots in the world. Just like other top universities, Silliman's academic programs undergo regular evaluation by any of three accrediting agencies: Philippine Accrediting Association of Schools, Colleges and Universities, Association of Schools, Colleges and Universities-Accrediting Agency, Inc., and the Association of Theological Education in Southeast Asia. It maintains links on collaborative research and faculty and student exchange with universities in the United States and Asia, on top of strong affiliations with the United Board for Christian Higher Education in Asia (UBCHEA) and international development organizations. Its longest running student exchange programs are with three Japanese universities: International Christian University, Ferris University and Shikoku Gakuin University. In 2011, the Silliman University Main Library became the first library outside Luzon to be awarded Outstanding Library by the Philippine Association of Academic Libraries. It was recognized for its growing collection of over 250,000 volumes and its ongoing computerization program. For the award, the Silliman University Main Library now joins the ranks of the libraries of the Asian Development Bank, International Rice Research Institute and Ateneo de Manila University. (Silliman University, 2011)

## **2.2. KPO Resources**

Shown in figure 2 is the KPO resources that are needed in the conduct of the outsourcing business process. These are the knowledge providers, outsourcing facility, knowledge seekers, business process and the practice of profession.



Figure 2. KPO Resources

### 2.2.1. The Faculty and Staff as Knowledge Providers

Knowledge provider refers to any individual in an organization who is expert in his own professional field capable of sharing and supplying knowledge in any form such as consultancies, researches, project managements, training and others. Experienced professionals can leverage their expertise to generate more revenues for the KPO firm. The more experience its professionals have, the more the firm can earn (Foreign Direct Investment, 2007). Thus, it is vital in the implementation of any Knowledge Product Outsourcing to have competent faculty and staff members in the outsourcing process.

Silliman University has a good complement of committed faculty and staff as knowledge providers. Because of its good academic leadership, this suggests to have good knowledge providers. Many of Silliman's academic deans, directors, and department chairs have been long associated with Silliman and are among the leaders in their disciplines and are widely recognized inside and outside of Silliman. Table 1 summarizes the pool of faculty and staff in Silliman University that are all considered knowledge providers. Capability training is necessary in order to make the knowledge providers ready and committed in the outsourcing process. Likewise, faculty and staff play a vital role in the success of the outsourcing process by providing their field of expertise as part in the knowledge outsourcing. Another perceived benefit of a faculty being the knowledge

provider is that it will respond to the call of the Philippine's Commission on Higher Education to gain an industry experience. Article 7, Section 14 of Curricular Memorandum Order 53 by the Commission, particularly the Policies and Standards of the Information Technology Education in the Philippines, requires that all faculty should gain IT industry experience such as technical administration, systems design, applications programming. It is a reality that due to work overloads, faculty has limited opportunities for industry immersion. With this, the university-based knowledge product outsourcing may help solved the said challenges in the university.

**Table 1.**  
Faculty & Staff Profile of Silliman University, SY 2007 – 2008

PRESENT PERSONNEL COMPLEMENT		PROJECT PERSONNEL	
Faculty		Career and Placement Office	1
Regular	333	OIP	1
Probationary	154	EDP	1
		IEMS	5
Staff		Extension Program	9
Regular	286	Justice and Peace Center	6
Probationary	6	BBC (Svc Contractor)	205
Total	779	Century security service	67
		Relievers	10
Part time Faculty	49	Total	305
Adjunct Faculty	28		
Visiting Prof./lectures	5		
Total	82		

### 2.2.2. The Infrastructure as Outsourcing Facility

The Silliman Online University Learning (SOUL) web portal was developed in 2007. In particular, the Virtual Class is piloted at the College of Computer Studies in the second semester of school year 2007-2008. It made a remarkable contribution into the teaching and learning experience to IT faculty members and students. The SOUL web portal was launched and the Virtual Class was officially introduced and used in the first semester of SY 2008-2009. Below is the screenshot of the web portal of SOUL where the Knowledge Product Outsourcing is also linked.

Another facility that is put up as part in the implementation of the Knowledge Product Outsourcing is the opening of CyberLecture Hall. It was established to host the online knowledge exchange between the provider and seekers such as lecturing, tutoring and discussions. The hall is equipped with the cyber camera, wide screens and other audio-video equipments.



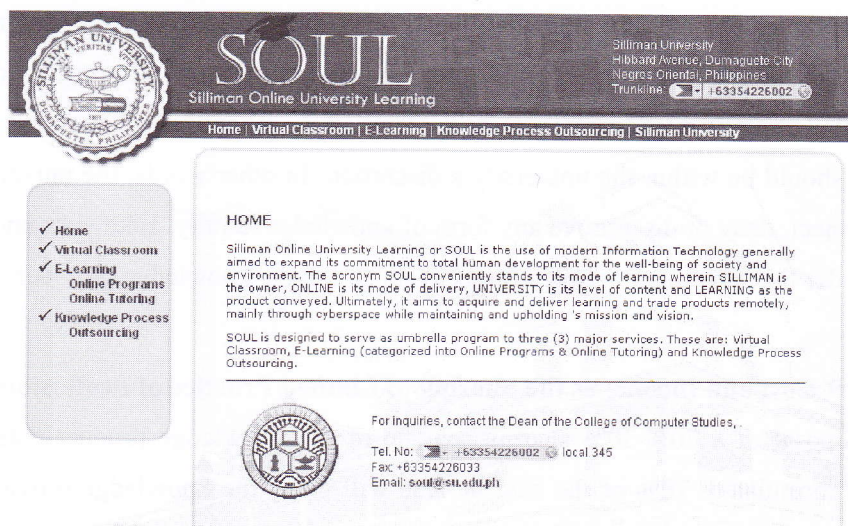


Figure 3. Silliman Online University Learning Web Portal

### 2.2.3. The Business Sector as Knowledge Seeker

Knowledge seeker refers to any individual or group of people such as government agencies, non-government agencies, private and other business sectors who wish to acquire professional consultancy from the knowledge repository in Silliman. Because it is assumed that knowledge seekers are from other places, they need to have access to the internet to avail of the outsourcing services of the university. Obviously, a secured mechanism in identifying the credibility of knowledge seekers is the most pressing issue that needs to be addressed.

### 2.2.4. University-based as the Business Process

In June 2006, the University Vice President for Finance and Administration released a memorandum on the limited practice of profession. The memorandum states

*“To expand the relevance, reach and service of Silliman University in the outside community, faculty and staff members are encouraged to engage in a limited practice of profession. This entitles faculty and staff involvements in research and other project works, including consultancies that make use of their experience and expertise. This measure would be expected to enrich the faculty and staff delivery of curricular services from out of real and current realities of industry. This is to be coordinated by Deans and Academic Directors with the assignment of approved overloads on research and extension. These measures are to encourage a culture of research and service in the community. Such is without prejudice to fulltime responsibilities as an employee of the University. In the same way, the intent to engage in such practice should be appropriately communicated to the direct superior for discussion and approval.”*

The designed outsourcing model is solely within the university's vision and mission. The university's manual on policy, procedures and regulations are all considered in the conduct of the limited practice of profession. Thus, it is school-based in nature and all transactions should be within the university's discretion. In other words, the university has the right to reject, deny or disapprove any form of knowledge inquiry. Likewise, knowledge content is under the agreement between the University and the knowledge provider.

### **2.2.5 Product Cost and Income as the Sharing of Limited Practice of Profession**

A proposal of a 70%-30% sharing scheme of the knowledge product outsourcing income was formulated. 70% of the said income will go to the knowledge providers, the faculty or staff, and 30 % will be the proceeds as the administrative cost to the university.

As to pricing of the knowledge content as product, the following are the proposed structure of pricing, as adopted from CIO Online Magazine, as follows:

- Unit pricing: The knowledge provider determines a set rate for a particular level of service, and the knowledge seekers pays based on its level of that service.
- Fixed pricing: The knowledge seeker pays a flat rate for services no matter what.
- Variable pricing: This means that the knowledge seeker pays a fixed price at the low end of a knowledge provider's delivered service, but allows for some variance in pricing based on providing higher levels of services.
- Cost-plus: The contract is written so that the knowledge seeker pays the knowledge provider for its actual costs, plus a predetermined percentage for profit.
- Performance-based pricing: At the opposite end of the spectrum from cost-plus pricing, a knowledge seeker provides financial incentives that encourage the knowledge provider to perform optimally. Conversely, this type of pricing plan requires knowledge providers to pay a penalty for unsatisfactory service levels.
- Risk/reward sharing: With this kind of arrangement, the knowledge seeker and provider each have some skin in the game. Here, seeker and provider each have an amount of money at risk, and each stands to gain a percentage of the profits if the knowledge provider's performance is optimum and meets the knowledge seeker's objectives. The seeker will select a provider using a pricing model that best fits the business objectives the seeker is trying to accomplish by outsourcing.

## **3. SUMMARY AND FUTURE DIRECTION**

Presented in this paper is a framework of Silliman University knowledge product outsourcing. The process model presented in this paper is in the pilot stage. There are lined

up activities to carefully fulfill its objectives. An initial training was done to some faculty and staff in the university. It is the hoped of the administration that the plan is a successful one. The outsourcing component of SOUL is strategically planned to be implemented in the school year 2012-2013. The following are the features of the newly developed system called e-knowledge box (Onte and Marcial, 2011), as follows: a) A system that is user friendly and high degree of usability to all knowledge providers and seekers; b) A system that is high availability, efficient and fast turn-around cycle to knowledge request and consultancy; c) A system that is reliable and secured access in performing Knowledge Product Outsourcing services and payment system; d) A system that offers search engine optimization in its URLs and architecture; and e) A system that contains an on-site web analytics that will measure user's activity.

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### References

- ArticlesBase.com . (2011). Retrieved from <http://www.articlesbase.com/business-articles/knowledge-process-outsourcing-in-the-philippines-764439.html>.
- Bardhan, Ashok and Kroll, Cynthia A. (2003). The New Wave of Outsourcing. *Fisher Center for Real Estate & Urban Economics Research Report*. Series No. 1103. Available at SSRN: <http://ssrn.com/abstract=985741> or <http://dx.doi.org/10.2139/ssrn.985741>
- CMO 53. (2006). Policies And Standards For Information Technology Education (Ite) Programs. Commission on Higher Education, Republic of the Philippines.
- CXO Media Inc. (2011). A subsidiary of IDG Enterprise. Retrieved from [http://www.cio.com/article/40380/Outsourcing\\_Definition\\_and\\_Solutions](http://www.cio.com/article/40380/Outsourcing_Definition_and_Solutions)
- CXO Media Inc. (n.d.) Outsourcing Definition and Solutions. Retrieved from [http://www.cio.com/article/40380/Outsourcing\\_Definition\\_and\\_Solutions?page=5&taxonomyId=3195](http://www.cio.com/article/40380/Outsourcing_Definition_and_Solutions?page=5&taxonomyId=3195)
- Drucker, P. (1969). *The Age of Discontinuity; Guidelines to Our Changing Society*. Harper and Row, New York. ISBN 0-465-08984-4
- ENTERWeb. (2005). Knowledge economy. Retrieved from <http://www.enterweb.org/know.htm>
- INQUIRER.net. (2010). It's official: PH bests India as No. 1 in BPO. Retrieved from <http://newsinfo.inquirer.net/inquirerheadlines/nation/view/20101204-306912/Its-official-PH-bests-India-as-No-1-in-BPO>
- Lam, W., & Alton Y.K. Chua. (2009). Knowledge outsourcing: An alternative strategy for knowledge management. *Journal of Knowledge Management*, 13(3), 28-43. doi: 10.1108/13673270910962851

- Marcial, D. (2010). eLearning 4 ALL: The SOUL Model. *Philippine e-Learning Society Journal*. Volume 1, Number 1, ISSN 2094-781x
- McNurlin, B. C. and Sprague, R. H. (2006). *Information Systems Management Practice*. 7th Edition.
- Memorandum on Limited Practice of Profession. 2006. By the Vice President for Finance and Administration in Silliman University
- Omniscient Entrepreneurs. 203-4, Radhika complex, Loha Mandi, Sansar chandra road Jaipur, Rajasthan, India. Retrieved from <http://oeindia.co.in/>.
- Onte, M. and Marcial, D. E. (2011). The Development of e-Knowledge Box: A Web-based Approach to Knowledge Product Outsourcing in the University. Presented during 1ST INTERNATIONAL CONFERENCE ON OPEN AND DISTANCE E-LEARNING, Manila, Philippines
- Riley, T. B. (2003). An Overview of the Knowledge Economy. Retrieved from <http://www.egovmonitor.com/features/riley07.html>
- Rundquist, J., & Halila, F. (2010). Outsourcing of NPD activities: A best practice approach. *European Journal of Innovation Management*, 13(1), 5-23. doi: 10.1108/14601061011013203
- The Outsource Blog. (2011). ADB studies funding options for Cebu dev't. Retrieved from
- TutorGig.com. (2009). Knowledge economy. Retrieved from [http://www.tutorgig.com/ed/Knowledge\\_economy](http://www.tutorgig.com/ed/Knowledge_economy).
- VentureOutsource.com. (2011). Retrieved from <http://www.ventureoutsource.com/contract-manufacturing/information-center/terms-and-definitions/3/>
- Silliman University. 2011. *History*. Retrieved from <http://beta.su.edu.ph/page/10-History>
- The Silliman Strategic Plan. 2008-2016. 2008. Silliman University, Dumaguete City.
- SU NetNEWS. 2008. *Dr. Malayang Shares 'Post-Newtonian University' Concept at KDC Meeting*. Retrieved from (<http://www.su.edu.ph/netnews/netnews33.htm>)
- Tarn, David D C; Chien-Chih, E. (2012). Knowledge Outsourcing: A Proposed Model. *International Journal of Management*, 247-266. <http://search.proquest.com/docview/925803146?accountid=141440>
- Foreign Direct Investment. (2007). Think tank: Knowledge process outsourcing - in the hands of the experts. 1-1. Retrieved from <http://search.proquest.com/docview/205254885?accountid=141440>