

INTERNSHIPS AND THE KNOWLEDGE ECONOMY

The Partnership for Knowledge Entrepreneurship
The Catalysts for Intellectual Capital 2020
2009 Leadership Institute

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Comparative Literature
Binghamton University, 2010

Abstract

This research paper discusses the benefits of internships in the knowledge economy, which is defined as an economic shift in, "encompassing all jobs, companies, and industries in which the knowledge capabilities of people, rather than the capabilities of machines or technologies determines competitive advantage," (Legnick- Hall, 17). The new economy is cyclical, where knowledge and innovation results in economic growth. This research paper also discusses the roll a university has, in relation to the city it is located in, to attract talent that will catalyze innovation, and result in economic growth. The articles mentioned in this research paper argue that university student internships in local businesses will help retain talent and advance businesses to be more competitive. The section, *Best Practices*, recognizes Strategic Partnership for Industrial Resurgence (SPIR) located in Binghamton, New York and Chicago Semester, as models that incorporate university students into local business internships. Following *Best Practices*, this paper has recommendations for Binghamton, New York and how it can collaborate with Binghamton State University of New York.

I. *The University as an Entrepreneur*

Knowledge and innovation are critical factors in the knowledge economy. More importantly, the knowledge learned in higher education helps produce innovation. Businesses and companies are attracted to areas of talent, and considering the myriad of professors, students, and innovative research projects, etc. universities are centers of knowledge. The university as an influx of talent and a source of knowledge, positions itself as an entrepreneur. The article, *The Future of the University and the University of the Future: Evolution of Ivory Tower to Entrepreneurial Paradigm*, states "the university becomes a key element of the innovation system both as human capital provider and seed-bed of new firms," (Etzkowitz, Webster, Gebhardt, Terra, 315). Therefore, the city or town a university is located in has potential for economic growth.

Because the university is becoming more entrepreneurial, its research in science and engineering curtails to the demands in the business market. Businesses and companies recognize universities as economic engines of growth, and the professional world develop partnerships between faculty and students to either enhance an existing product or patent new technology. Businesses as well as the government acknowledges the economic potential of universities and as a result, patent laws accommodate university research and government-university partnerships are seen as promising investments. Etzkowitz proposes that the

INTERNSHIPS AND THE KNOWLEDGE ECONOMY

entrepreneurial university will, "shift to even greater dependence of the economy on knowledge production," and "attempt to identify and guide future trends in knowledge production," (Etzkowitz, Webster, Gebhardt, Tera, 326). As more companies partner with universities, the more universities will develop their research programs. Thus, the entrepreneurial university is collaborating with companies, and as a result, students have more experience with the real market.

Considering the revenue large companies produce, one would imagine that universities primarily partner with large companies. However, "universities gradually extended their activities deeper into the technology transfer process, identifying and filling gaps in the technology push process, establishing incubators to assist the formation of firms from campus research and venture capital arms to fill gaps in the availability of seed funding," (Etzkowitz, Webster, Gebhardt, Terra, 319). Universities are searching for any opportunity to discover new ideas and innovations. Therefore, as the university is becoming a center of innovation, it functions as an important role for small businesses, since university teams partner with small businesses to solve minor and major issues.

As an entrepreneur the university is more willing to participate and engage in businesses' research projects. In order to provide new knowledge and innovation, a student must be taught current curriculum that will benefit a company and business. Such a student will be more sought after, since the student's knowledge of business will be more applicable to modern standards. The student, as an intern, will be beneficial to a company, since "The main advantage to this type of the channel [internship] lies in the industry's access to brand new knowledge, which considerably widens its prospects for innovation," (Cowan, Soete, Tchervonnaya, 13)

II. Knowledge Transfer

Though the university is a center of knowledge, finding the needed talent could pose a problem. The talented student must be paired with the correct company, or else neither the student nor the company will benefit from an internship. The article *Knowledge Transfer and the Services Sector in the Context of the New Economy*, defines knowledge transfer as, "the process by which knowledge transfers from a knowledge holder (a person or organization possessing the knowledge) to a knowledge recipient (a person or organization receiving the knowledge) through one or a great number of transfer channels," (Cowan, Soete, Tchervonnaya, 1). Technology requires companies to be up to date with current practices, and this could mean a company could modify software or switch over to e-business. That is why, "Japanese firms were reported to be encouraging their engineers to attend engineering conferences, read the technical literature and participate actively in the engineering community," (Cowan, Soete, Tchervonnaya, 14). Companies such as those in Japan are making sure to follow market trends and innovation. However, instead of encouraging employees to search for these trends and innovation, companies are now transferring needed knowledge from talented student interns to themselves.

The relationship between a student intern and company is ideal for economic growth; both the intern and company could be the knowledge holder and recipient. (For this section of the research paper, the company will be specifically the knowledge recipient) However, though interns are paired with companies, that does not necessarily mean knowledge is transferable.

INTERNSHIPS AND THE KNOWLEDGE ECONOMY

In order for the knowledge holder and recipient to transfer information, they must be on similar channels. According to the article previously quoted, "the appropriate channel of transfer is a joint function of the goals of the technology donor and the absorption capacity of the recipient," (Cowan, Soete, Tchervonnaya, 10). Therefore, information will not be transferable unless the intern is willing to relay material learned from the university and the employer is willing to accept it. Thus, a meaningful internship is essential to have knowledge transferable. The intern who methodically files and rearranges documents will bring little benefit to a company, and the company will most certainly not provide a professional experience.

There are many explanations why an internship does not mimic a professional experience. For one, the employer could overlook the potential the intern has as a new source of knowledge and innovation. Two reasons why a company or employer is hesitant to accepting new knowledge from an intern are because either, "the ways corporate organizations learn are shaped by what these organization already know," or "there is a distrustful attitude towards new outside influences," (Cowan, Soete, Tchervonnaya, 10). This generally extends from the disbelief companies have of the changing economy. Though the knowledge economy is the future, companies functioning in the industrial era will find no need to learn alternative methods and ideas. This mind frame could also possibly explain why companies are so hesitant in placing responsibility onto their interns. However, it is imperative that companies understand the importance of knowledge and perceive the intern as a new source of innovation. Etzkowitz writes, "organization [companies] act, not separately as in the old linear model, but through various alliances and consortia, creating ties across academic, industrial, and government sectors," (Etzkowitz, Webster, Gebhardt, Terra, 329). The survival of companies in the Knowledge Economy requires collaborations, and less dependence of companies' own resources. This means the increase in quality internships is vital to the increase in innovation.

III. Quality Internships

As mentioned earlier, a student internship must consist of more than trivial tasks such as filing and documenting. There must be experiential learning as well, where the student has the opportunity to practice what he or she learned at the university. Thus, the employer must take an active role in teaching the intern what the necessary steps are to be effective workers. Veronica Donahue DiConti writes in *Experimental Education in a Knowledge-Based Economy: Is it Time To Reexamine the Liberal Arts?*, "As a result of the shift in their priorities, an increasing number of today's students seek to concentrate their studies in subjects that they consider relevant to their futures and that ideally might help them in employment opportunities upon graduation," (DiConti, 168). Students are more or less searching for quality work experience, so that their knowledge of their prospective profession is well researched and thought out. A student who is studying finance, for example, will be spending more time on financing as a major and profession, so that every second is valuable to building the student's knowledge of that field. What students consider relevant is primarily what field will produce the most amount of income; at least that is what statistics are conveying. DiConti writes, "degrees awarded in arts and sciences shrank to 35% while business grew to 22%," (DiConti, 169). The increasing interest in business could be a result of the knowledge economy, nonetheless, students are less concerned with exploring a variety of subjects, than choosing the major most relevant.

The article *The Global Engineering College: Exploring a New Model for Engineering Education in a Global Economy*, proposes that as the internationalization of college curricula has

INTERNSHIPS AND THE KNOWLEDGE ECONOMY

become the center of debate, an international engineering curriculum is a new priority. The article outlines four key elements of the Global Engineering College, the second being, Global Internships. According to the article, "Prerequisites for success in a modern internationalized corporate environment include sensitivity and adaptability to differences in corporate work cultures, etc. These types of experiential nuance can only be earned in the work place," (Eckehard Doeery, 3). Internships are considered as high priorities in acclimating students to the professional environment. It teaches students professional etiquette and complements a student's university studies.

Internships "require students to use their prior learning and apply their academically acquired knowledge to a professional setting," (DiConti, 173). The internship should be practical, in a sense; the student will receive hands on experience, rather than learning textbook theory and practicum. This will provide the intern a thorough understanding to whether he or she is interested in the prospective field. DiConti defines the effective internship as, "a philosophy of education based upon the primacy of experience in the learning process," (DiConti, 174). The employer's purpose, then, is to provide a learning experience for the intern. The reason being, "students come to a better understanding of the field experience by combining the theoretical aspects learned in classrooms with the practical experience encountered in the internship," (DiConti, 175). The quality internship will, therefore, stir innovation within the company. The new knowledge that companies desperately search for can be found in the intern. And the intern will learn practical experience that can be use upon graduation. Thus, a quality internship is a means to transfer knowledge in the Knowledge Economy.

IV. Best Practices

This section of the research paper discusses Strategic Partnership in Industrial Resurgence (SPIR) and Chicago Semester. SPIR and Chicago Semester serve as models to attracting new talent to local businesses. Although SPIR is no longer in business, the reader should not take that as a failure in their model, but the unfortunate circumstance of New York State budget cuts.

SPIR began in 1994 with Watson School of Engineering at Binghamton State University of New York. Working in conjunction with Watson, SPIR partners faculty and graduate students with local businesses in need of problem solving. Typical SPIR projects can range from shop floor layout and workflow improvement to e-Business conversion and software application design and redevelopment. Local businesses submit an application, and if SPIR feels the issue(s) local businesses address are related and applicable to faculty and students, SPIR will organize a team and pair it to each accepted business. This system allows the intern and business to be on the same channel, and this will transfer needed knowledge from one party to the other. As a result, "an estimated 90 million dollars in wages- per- year is generated by the approximately 2,500 jobs that SPIR has helped their partners create and retain," (SPIR). SPIR is a model that creates meaningful internships for students interested in professional experience, and local businesses benefit from new information and ideas from the student interns. The relationship created by SPIR forms a network between the university and neighboring towns, and this could possibly help attract and retain much needed talent.

INTERNSHIPS AND THE KNOWLEDGE ECONOMY

Chicago Semester initiated in 1974 by six Christian Colleges in order to give undergraduate students the opportunity to gain professional work experience through internships and seminars. According to the Spring 2009 schedule, orientations are from January 26 – 30, and accepted students have interviews for possible internships and CS staffs help students find the right match. Housing is arranged for the students, prior to the semester, and students move in on January 31, and the program ends May 8 (Semesters take place during fall, as well as spring). Chicago Semester attracts talent to Chicago, and through student internships, businesses will be up-to-date with current trends. Also, because this program allows students to dorm in Chicago, students will be exposed to the entertainment Chicago offers. This will help attract and retain talent that businesses in Chicago can employ, and this will lead to economic growth.

V. Recommendations

After researching the roll of university's in the knowledge economy and the benefits of internships, this paper recommends the following: Binghamton and neighboring towns should create similar models of SPIR and Chicago Semester. Perhaps Binghamton can mimic Chicago Semester, and allow outside students to live and intern at Binghamton. If Binghamton offers incentives such as scholarships or free rooming, students across the nation and globe may be interested in interning at Binghamton. While the accepted students are interning, the program should try to engage the students with the community, in hopes to attract and retain talent. For example, if CIC2020 allows other students to enroll in this class, students will be exposed to many businesses, play houses, museums, and apartments. As mentioned by many CIC2020 students, this class changed their perspective. Perhaps, CIC2020 or a similar class can change the perspective of many other students, as well. This will result in the attraction of new talent, the transfer of new knowledge, and the retention of talent.

Works Cited

- Cowan, Robin, Luc Soete, and Oxana Tchervonnaya. "Knowledge Transfer and the Services Sector in the Context of the New Economy." Maastricht: Merit, 2001.
- DiConti, D. Veronica. "Experiential Education in a Knowledge-Based Economy: is it time to reexamine the liberal arts?." The Journal of General Education 53 (2004): 167-183.
- Doerry, Eckehard, Karl Doerry, and Bridge Bero. "The Global Engineering College: exploring a new model for engineering education in a global economy." Arizona: American Society for Engineering Education, 2003.
- Etzkowitz, Henry, Andrew Webster, Christiane Gebhardt, and Branca Regina Cantisano Terra. "The Future of the University and the University of the Future: Evolution of Ivory Tower to Entrepreneurial Paradigm." New York: Elsevier Science B.V. 2000.
- Tornatzky, Louis, Paul G. Waugaman, and Denis O. Gray. "Innovation U.: New University Roles in a Knowledge Economy." Indiana: Southern Grown Policies Board, 2002.