

UNIVERSITY—COMPANY PARTNERSHIPS KEY TO RESOLVING OUTSOURCING OF U.S. JOBS

By Gary J. Erwin

Director of Publications and Communications
Lecturer of Communications
Kettering University
Flint, Mich.

Abstract: Many analysts believe that industry-university partnerships in the U.S. similar to those between the Electrical Manufacturing and Coil Winding Association and American universities could help the U.S. electrical manufacturing industry recover from the loss of jobs overseas through the development of new innovations. Unfortunately, media outlets often fail to provide a balanced view of the outsourcing issue for many industries including the electrical and electronics manufacturing industry, thus creating public uncertainty regarding the import and export of U.S. jobs. This paper summarizes some of the outsourcing issues in the industry today, provides insights into how the electrical and electronics manufacturing industry could re-establish itself through relationships with institutions of higher education, and attempts to decipher the real story of outsourcing that our national media fails to report.

Key words: outsourcing, workforce development, North American Free Trade Agreement, patent infringement, media

I. Historical Perspective: Definition of Outsourcing

In recent years, the word “outsourcing” has become a term of negation as it relates to U.S. industry and its impact on the global marketplace. As newspapers continue to publish reports of major corporations sending jobs overseas due to skyrocketing labor and health costs, the public’s declining trust in the U.S. economy wanes even further, thus subjugating future sales of new products produced by American companies.

But ten years ago ruminations about the term “outsourcing” were not nearly as socially and politically charged as they are today. A historical look at the term and its evolving definition suggests that perhaps outsourcing is merely a logical development in our ever expanding global marketplace. Dr. W.L. Scheller, an associate professor of Industrial and Manufacturing Engineering at Kettering and noted expert on outsourcing,

said that the word was first used in the 1980s to describe the contracting of firms to conduct work previously done in-house by companies.

“It was most heavily used in the context of contracting with non-union firms to replace work done by union employees,” he explained. “This brought with it the distinct connotation of abandoning the capability for doing the work, as well as simply purchasing from an outside source.”

Scheller added that the international connotation for the term eventually developed in the mid-1990s with the implementation of the North American Free Trade Agreement (NAFTA) and through trade with Mexico, where U.S.-based companies could employ low-wage employees in production and manufacturing facilities. Today, Scheller offers a more inclusive definition of outsourcing: giving contracts to a foreign entity for goods or services as a replacement for or alternative to investing in internal production or service organizations. “In management and most professional circles, the term simply indicates a strategy for containing cost,” he said. “In the context of labor, and increasingly in politics, the term is somewhat pejorative.”

II. The Role of Patent Infringement

Added to this issue of outsourcing are loopholes in laws that govern trade, which allow foreign manufacturers to basically copy technology patented by U.S. firms and sell knock-off products that are cheaper even though they infringe on U.S. patents. The electrical and electronics manufacturing industry is one that is severely affected by outsourcing, patent infringement and lost market share. This industry produces electrical and electronic parts for devices such as stereos, digital media players and a host of other items for industries like the automotive field. The Electrical Manufacturing and Coil Winding Association (EMCWA) is a primary representative of the electrical and electronics industry, and is comprised of engineers, company presidents, managers from all engineering

disciplines, manufacturing experts, designers and other key individuals.

The specific issue of outsourcing is problematic for a number of industry leaders. Pat Winton, a former EMCWA member and president of Globe Products Inc., a manufacturer of machines and tooling for the small electric motor industry, believes the root of outsourcing developed in the early 1980s. In 1983, his company began exporting products to the Republic of China. But today, “the manufacture of high volume small electric motors has left the U.S. and is now done in Mexico and China by international companies,” he said. Additionally, an even more distressing signal of this lost manufacturing sector is that Mexico is now losing production to China. “This (loss of production) has caused at least 150,000 lost jobs in the U.S.,” Winton added.

It’s not difficult to pinpoint some of the reasons for this loss. According to analysts, high labor and health care costs have forced U.S. companies to transfer manufacturing operations to places like China, where labor is purportedly very cheap. Furthermore, these countries often display little regard for intellectual property rights of U.S. companies and thus copy U.S. made products, then sell them as cheap knock offs in other markets. Robert Sanchez, a magnetic component design engineer for Sandia National Laboratories based in Albuquerque, N.M., and a board member of the EMCWA, echoes Winton’s concern regarding the departure of manufacturing jobs to overseas locations. “The U.S. industry has shrunk considerably over the last five years,” Sanchez noted. “The coil winding business used to have several large manufacturers in the U.S. with reps who would attend conferences for the industry. But today, we do not see them much at all attending industry events in the U.S.”

Part of the reason Sanchez explained is because U.S. companies that outsource jobs and sell products overseas have little concern regarding the duplication of their products by companies contracted in other countries, since U.S. firms still maintain ownership of the original design. “We have no real way to police this situation and prevent it from happening,” he said. “Foreign companies that contract with American firms produce their knock offs with little worry.”

III. Insuring patent protection

This leads to a difficult question: how can U.S. electrical and electronic manufacturers prevent future outsourcing of jobs while protecting U.S. patented products from being copied and sold by companies in other countries?

Dr. Jim Gover, a professor of Electrical and Computer Engineering at Kettering University and a retired senior scientist from Sandia National Laboratories, understands the issues of this situation thoroughly. In his view, U.S. electronics companies continue to move jobs to countries like China because labor is cheaper and there is little in the way of health care costs. But what is most damaging to the U.S. industry is that China, “has a record of not honoring U.S. patents and there are cases of China bringing in a U.S. manufacturer and duplicating U.S. produced products. What we need to do is create new technology that will be impossible for other countries to duplicate. Unfortunately, simply providing more federal funding to research and design for companies will not stop this from continuing,” he added.

Gover noted that one way to increase the number of jobs in this sector in the U.S. is through partnerships established between U.S. universities through the EMCWA and U.S. firms. This partnership helps to increase the technical strength of EMCWA members, make them aware of emerging technologies and create a pool of students EMCWA members might consider for employment. Sanchez agrees with this assessment. “The partnerships developed between firms and universities through the EMCWA are on the right path,” he said. “New technology and innovation will make it better for U.S.-based manufacturers. We need to develop micro-technology that will make it difficult for countries like China to copy.” Gover and Sanchez agree that one of the best ways to utilize the research capabilities of American universities is in conjunction with American firms.

This sentiment is echoed by Senator Hillary Rodham Clinton (D-New York) in an editorial published in the August 1, 2004, edition of *The Wall Street Journal*. Clinton believes that the U.S. needs to adopt a strategy to help realize the country’s potential that focuses on “innovation, new job creation, workforce development, connectivity expansion and collaboration between industry, academia, labor and government. We have to equip businesses and workers to become even more competitive, further develop the digital economy, and work to end trade and tax practices which undermine competitiveness.” (Clinton, 2004, n.p.) She also states in her editorial that our country’s national agenda must work to promote stronger research efforts through direct investment in science. This would mean establishing new tax incentives for jobs while eliminating others that are currently rewarded to businesses for exporting jobs overseas.

Many analysts believe these ideas offer the most viable solutions for U.S. manufacturers to regain some ground on the playing field. Research and design is perhaps the only remaining controllable expense companies can work

on. But in today's electrical and electronics manufacturing environment, many leading companies engage in global network manufacturing, which means that firms utilize a network of partners from around the world such as U.S. chip makers, Indian engineers and China factories. Unfortunately, this sort of network manufacturing can breed new competition. If, for example, a U.S.-based company hired a small electronics firm to produce a cell phone, that small firm could potentially sell the same phone under its own name in another market. This might lead to a lack of incentive for companies to continue investing in technology and innovation, something both Sanchez and Gover believe could devastate the industry over the long run.

IV. Need for university—company partnerships

But all is not hopeless.

Gover, an active member of the EMCWA for several years, continues to encourage the EMCWA board to actively participate with U.S. universities like Kettering for many reasons. As an EMCWA member, he is "exhausted of hearing about the old worn out story that the problem with the U.S. electronics and electrical manufacturing sector is rooted in our country's K-12 education system," he lamented. "The corporate CEOs' basic argument that the U.S. lacks the intellectual resources to compete with foreign companies represents a lack of energy and enterprise on their part. Look at Toyota under the leadership of company President Fujio Cho. Toyota went into Kentucky, a state with one of the worst K-12 education systems in the country, and built a manufacturing team and associated resources whose products have a lower defect rate than those built in Japan."

Gover also explained that major research universities are happy when large companies such as GM build plants in China, because these schools can attract Chinese students to the institution. In addition, the technical program of the EMCWA meeting each fall "is provided largely by the universities supported by the association," Gover said. "The topics are of direct interest to EMCWA member companies. Presumably, EMCWA members learn how to improve their products through the EMCWA meeting." Kettering, for example, became a partner with the EMCWA through the work of Dr. Mark Thompson, a professor of Electrical Engineering at the University. Currently, Thompson manages the distribution of scholarship funding provided by the EMCWA to worthy students and at the 2004 conference, he managed to persuade Mechanical Engineering Professor Brenda Lemke to bring Kettering's fuel cell research vehicle to the conference for display and discussion. Thompson's

work with the EMCWA over the years has helped many students afford a college education while developing the skills necessary to become competent electrical and electronics engineers.

Senator Clinton also feels these efforts could reduce the number of positions outsourced overseas. If universities can offer students the resources necessary to pursue a degree in this field, perhaps we provide the next industry leader with an opportunity to change the environment. In Clinton's view, the U.S. "must help our workers to adapt. This means attracting more people into the science, math, engineering and tech disciplines through grants to universities... we cannot afford to fall behind to India and China, who graduate far larger numbers of scientists and engineers." (Clinton, 2004, n.p.) She also suggests that the U.S. government must change the Trade Assistance Program, which provides wage assistance and retraining opportunities to manufacturing workers who lost jobs due to trade (Clinton, 2004, n.p.) This program could undergo slight modifications and expansion to encompass computer professionals and other service positions.

V. Role of Media: Balanced or Imbalanced?

In a traditional sense, the role of media in reporting on issues and trends in any industry must strive to achieve a balanced view. For those of us who studied journalism and practice it for a living, the basic philosophical and applicable theory presented to budding journalists in the classroom is that news reporting is unbiased. But as we have witnessed over the last several years, the issue of balanced reporting and neutrality in news coverage is one of subjective observation. What sells newspapers and increases television news broadcast ratings are stories that create discomfort and uncertainty among readers and viewers, particular pieces that force viewers and readers to ask difficult questions.

In reporting on the outsourcing issue, U.S. media outlets continually fail to convey the reality of costs associated with outsourcing and number of jobs in many diverse industries that are exported **back** to the United States. For example, Dr. Howard Rubin of Hunter College undertook a 2004 study for New Jobs for New York, a nonprofit corporation focused on economic development, which analyzed purported cost savings by the top 10 largest New York firms that planned to conduct business work offshore. Nine out of these ten firms expect to conduct business overseas for 2005. Based on Rubin's findings, approximately 44% of these nine firms cited an average expected savings of 44% per outsourced job. (Clinton, 2004, n.p.) However, Dr. Rubin found that after all costs are included firms realized a savings of only 20%. But to gain a fuller picture, companies must also plan for offshore transition, vendor selection, technology

infrastructure development, communications, offshore management, travel and security among other costs. Thus, a job that might cost a company \$5 an hour for an offshore employee to undertake may in fact cost that firm more than \$10-20 an hour. Is this really a cost savings?

Additionally, the U.S. Department of Labor's Bureau of Labor Statistics reported that during the third quarter of 2004 the U.S. lost more than 600,000 manufacturing jobs through relocation and elimination. However, in that same time period, the country gained **back** almost 600,000 manufacturing jobs. (U.S. Dept. of Labor, 2004, n.p.) Yet the media failed to report on the number of manufacturing positions gained or brought back to the country. Such reporting on these jobs would negate any sense of "news" generated by a piece on outsourcing.

This lack of reporting is perhaps conjured by events beyond the control and understanding of individual media outlets that lack expertise in particular subjects reporters are required to write about. In 1993 when NAFTA went into affect, people in the U.S. expressed worry that our country would loose jobs to Mexico and thus our economic opportunity to earn a good wage. But according to Pete Du Pont, former Delaware governor and policy chairman of the Dallas-based National Center for Policy Analysis, NAFTA "created one million new jobs in America." (Du Pont, 2004, n.p.) Du Pont also suggests in his piece that in Massachusetts alone during 2004, European and Asian companies such as Nestle, Novartis Biomedical and Honda "in-sourced" 221,000 jobs to the state. Unfortunately, the media rarely reports on these new positions.

In addition, the media continues to lament the unemployment rate in the U.S. and why the displacement of jobs overseas will not end in the near future. According to an editorial published by *The Wall Street Journal* on April 11, 2004, the media "have done a terrific job of convincing everybody that these are the worst of time. A poll conducted by the American Research Group in mid-March (2004) found that 44% of Americans believed that the country was still in recession. That's passing strange when you consider that the last recession ended in November of 2001, and for the last two quarters of 2003 the U.S. economy grew at an annualized rate of 6.1%, the fastest in 20 years. Even more remarkable, the percentage of gloomsters was higher in March, when we now know that 308,000 new jobs were being created than over the previous three months." ("The Dangerfield Economy," 2004, n.p.)

All of this suggests one important thing: the lack of accuracy in reporting on the outsourcing issue. Alan Reynolds, a senior fellow at the Cato Institute and syndicated columnist, states in a June 6, 2004, article in

The Washington Times that one reason the press made considerable errors in reporting on lost IT jobs in the Silicon Valley area is because this part of the country "has been wrongly generalized into a nationwide phenomenon. The unemployment rate in San Jose fell from 6.7 percent in July 1994 to 1.3 percent by December 2000. But local unemployment subsequently soared to 9.1 percent by January 2003—a two year shakeout as frightening as the corresponding collapse of Silicon Valley stocks. By this March (2003), San Jose unemployment was still 6.8 percent, nearly double the 3.6 percent rate in Orange County. Yet even in 2000-2002, when computer specialist jobs were declining nationwide, Jacob Kirkegaard at the Institute for International Economics showed such jobs rising substantially in Virginia, Maryland and New Jersey." (Reynolds, 2004, n/p.)

Does this mean the electric and electronics manufacturing industry may see jobs returning to U.S. electrical and electronics manufacturers? Perhaps not. What it does indicate is that jobs in the IT and other industries are still being created in the U.S. But that does not mean that eventually those new jobs might be outsourced to another country. For many analysts, the only real way to create new jobs for this industry is to develop new technology that is difficult to copy, which is why partnerships with American universities are critical to the survival and endurance of this industry sector. Additionally, companies, professionals in the field, associations and other constituent groups with a vested interest should consider lobbying their state and federal representatives to review federal law regulating the practice of partnership development between U.S. companies and foreign companies contracted to perform manufacturing work for these U.S. firms.

Finally, perception is crucial to understanding the real issues associated with outsourcing in any industry. While the loss of U.S. jobs is disconcerting and cause for concern, it is a logical development in an ever-expanding global market place. Thomas Sowell, a senior fellow at the Hoover Institute and author of *Basic Economics: A Citizen's Guide to the Economy, Revised and Expanded*, notes in an editorial that "free international trade produces both the benefits of increased productivity and the adjustment problems that all forms of increase productivity produce—namely jobs losses in the less competitive firms and industries. The typewriter industry was devastated by the rise of the computer, as the horse-and-buggy industry was devastated by the rise of the automobile. Histories of the industrial revolution lament the plight of the handloom weavers when power looms were introduced." (Sowell, 2004, n.p.) Outsourcing can thus be viewed as evolutionary in many respects. But it is important to note that the U.S. has in fact been a "net-recipient of outsourcing jobs" ("The Dangerfield

Economy," 2004, n.p.), which is further evidenced by the production of 10 million vehicles by Toyota in the U.S. alone. For the electrical and electronics manufacturing industry, innovation, partnerships, progressive thinking and patent protection are necessary to insure that jobs remain in the U.S. Furthermore, media outlets must take greater care of how they perceive the issue of outsourcing in this industry and others, for their perception often dictates how people and indeed a nation may view the loss of jobs and impact the creation of policies that might do more damage than good.

REFERENCES

1. Clinton, H. (2004, August). 'Bestshoring' Beats Outsourcing. *The Wall Street Journal*, n.p. Retrieved June 10, 2005, from the World Wide Web: <http://www.opinionjournal.com>.
2. U.S. Department of Labor, Bureau of Labor Statistics. (2005, June). Retrieved June 10, 2005, from the World Wide Web: <http://www.bls.gov/bdm/home.htm>.
3. Du Pont, Pete. (2004, March). Smoot Operators. *The Wall Street Journal*, n.p. Retrieved June 10, 2005, from the World Wide Web: <http://www.opinionjournal.com>.
4. The Dangerfield Economy. (2004, April). *The Wall Street Journal*, n.p. Retrieved June 10, 2005, from the World Wide Web: <http://www.opinionjournal.com>.
5. Reynolds, A. Offshoring Which Jobs? (2004, June). *Cato Institute* n.p. Retrieved June 10, 2005, from the World Wide Web: http://www.cato.org/pub_display.php?pub_id=2692
6. Sowell, T. (2004, February). Tax Cuts Do What? *The Wall Street Journal*, n.p. Retrieved June 10, 2005, from the World Wide Web: <http://www.opinionjournal.com>.

Gary J. Erwin is a director of Publications and Communications, and lecture of Communications at Kettering University in Flint, Mich. His work has appeared in many magazines, journals and books. He thanks Robert Sanchez, Pat Winton, Jim Gover and W.L. Scheller for their insights into this subject.