

# **Outsourcing: Implications for Homeland Security**

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**Homeland Security Subject Area**

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March 2005

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## Abstract:

The goal of this paper is to explore globalization with respect to homeland security and command and control ( $C^2$ ) functions for outsourced locations. The ramifications of outsourcing as seen through various examples of distributed functions are discussed.

Management of personnel and resources is essential to  $C^2$ . Government contractors, corporations, and government agencies either directly or indirectly utilize overseas labor. It is essential that these companies have effective and timely interactions with their overseas units. For example, GE now has a new Homeland Protection platform for US civil aviation authorities which detects explosives. The Homeland Protection platform is housed within the newly created GE Infrastructure branch. A major technology center for the Infrastructure branch is located overseas in Hamburg, Germany.

The purpose of this research is to point out the broad-reaching effects and implications of globalization. GE is but one of many companies practicing outsourcing strategies. It is increasingly difficult to restrict the manufacturing of any physical or virtual product and all of its components to strictly the United States, nor are we suggesting that this should be done. Rather, we seek to initiate discussion on the potential risks of outsourcing.

# The Evolution of Distributed Work

## Introduction

Outsourcing is a phenomenon that has been present for hundreds of years and is utilized across industries throughout the world. Industry's goal with outsourcing is to shift those operations that do not relate to their core competencies to separate less expensive facilities. In theory, this not only lowers the company's bottom line, but also allows them to focus only on their primary capabilities.

However, most companies give little or no concern to the protection of data they send to the outsourcers, or to potential harm faced by these foreign companies. A great deal of outsourced work is related to information technology (IT) and software development, with human resource outsourcing and private military firms trailing not far behind. Computer chips and essential software programs are being developed and shipped back over to the US to be placed in personal and corporate computers, aircraft, automobiles, and banks. Foreign scientists and programmers are often educated in the US before traveling back to their native countries.

The threat to homeland security from outsourcing lies both within the country and abroad. Outside our borders, terrorists could potentially attack these outsource locations. Currently, there is little to no legislation to protect the sanctity of transmitted information. Background checks for personnel are not consistent across the board and it is possible that unsuited people are entering into these positions of trust. Furthermore, corporate entities are reluctant to reveal details or existence of security policies in outsourced locations. In turn, data may be abused and software tampered with, causing harm to the United States. In a globalized world, distributed work continuously occurs across borders and oceans, creating command and control ramifications for the parent company.

## The History of Distributed Work

Distributed work is not a new concept; however, it is one that is rapidly gaining momentum, especially in the scientific and technological arenas. The Hudson Bay Company is most commonly cited as the first real case of distributed work. Existing since 1670, The Hudson Bay Company was able to effectively run a corporation from a highly distributed network model, which was quite an accomplishment given they did not have access to any of the modern telecommunications that help to make distributed work effective for some (Level, 2002). Their model likely flowed much slower than a distributed network would today, but that was perfectly acceptable for the given time and place. The Hudson Bay Company was headquartered in England, but conducted the vast majority of their work in Canada, all of this in a time when sending a letter across the ocean took a minimum of three weeks (O'Leary, 2002). A close examination of their distributed business model over a period of 150 years shows an emergent characteristic—trust. The Hudson Bay Company trusted their employees and the employees trusted The Hudson Bay Company. This mutual trust allowed The Hudson Bay Company to possess an immense amount of control, even though they were on the other side of the Atlantic Ocean (O'Leary, 2002). Arguments could be made that the actual distributed work network existed long before then, if you would go so far as to consider the creation of a single product by different people distributed work.

## ***What is Distributed Work?***

There are many different definitions of distributed work, which differentiate among virtual workers, telecommuters, remote workers, etc. The commonality between all of the subtypes is they all perform work from a location other than a central workplace. Outsourcing is one subtype of distributed work. Outsourcing can be defined as “the delegation of tasks or jobs from internal production to an external entity (such as a subcontractor). Most recently, it has come to mean the elimination of native staff to staff overseas, where salaries are markedly lower.” (Centipedia, 2005)

## **Shifting Jobs Overseas**

### ***The Push From Within the Industrialized***

There are many reasons and functions that Western countries have for justifying shifting jobs overseas to Developing or Least Developed countries. The primary impact can be felt by the reduction of the company’s economic bottom line. Shifting jobs overseas allows the company to move work to countries that have significantly cheaper labor forces and real estate costs. In most cases, they also are not as heavily taxed. Companies have long been shifting manufacturing and textiles jobs overseas, and have received much criticism for what has become termed as “sweatshop labor”. This paper does not seek to describe the traditional setting implied by the term sweatshop. Rather, it does seek to investigate the security implications as a result of technology. Technology has changed the workplace significantly in the Western World, shifting the dominant sector from one of manual labor intensive jobs to one of the service sector, where technology skills and higher levels of education are often mandatory. These changes were first realized in the Industrialized World because that is where the technology exists most prevalently and where there are individuals who can afford to buy it.

### ***The Pull from the Developing World***

This by no means suggests that the rest of the world is sitting back watching the Information Age pass them by with no changes to their own societies. Countries recognize that IT outsourcing through distributed work can bring a significant portion of money into a country that may not otherwise have many monetary resources. In 1998, the global IT outsourcing market was valued between US \$30 and \$40 billion (Dulamdary, 1998). Gartner, Inc. projected this market to increase to US \$543 billion by 2004 (Sitory, 2002). Conservatively, in just six years, the global IT distributed work market increased by more than thirteen times its 1998 estimated value. Furthermore, Gartner also forecasts “more than 80 percent of multinationals will use IT outsourcing to save money, overcome skill shortages, or increase flexibility” (Sitory, 2002). Enkhtor Dulamdary (1998) of The United Nations Development Programme stated, “Teleworking has enormous implications on the international division of labour and term of trade. It constitutes a rare opportunity for developing countries to enhance their competitive position in the world economy.”

Many societies have embraced technology with open arms, such as Bangalore, India, which has become known as “the Silicon Valley of India” (Dulamdary, 1998). In fact, the Software Technology Parks of India, Bangalore are headquartered within the Government of India’s Society under the Department of Information Technology in the Ministry of Communication and Information Technology. The former Prime Minister of India, Atal Behari

Vajpayee, stated that the “national goal” of the Technology Parks is to “make India a global information technology power and one of the largest generators and exporters of software in the world within the next ten years.” (Software, 2003) The implications of this goal are quite clear, and India is on the pathway to making their goal a reality. As a country, India produces more IT graduates than the United States (Basu, 2003). In fact, many Indians are trained in the United States, and later return home to share their newly learned skills. However, there are universities within India that are also quite advanced as far as technology education, such as the Indian Institute of Technology, which has been touted as India’s version of MIT. Promising as this may be, India still contains quite a bit of untapped potential; according to recent estimates, there are currently three computers for every one thousand people in India, leaving a large portion of the population without any computer experience whatsoever (Wells, 2003).

India has proved itself to be efficient in all aspects of IT from programming to customer support. As a former British colony, Indians are fluent in English, and this makes them more appealing to US companies because it allows them to skip a significant portion of English education; however, a significant amount of cultural training still occurs in most situations. Having a working knowledge of English is no small feat; there are currently an estimated 1.9 billion English speaking people in the world, making it the most widely spoken language, and making it the foremost language of technology (Redman, 2002). For those who work on the customer support side of technology for US companies, they must learn how to relate to the American public. This learning includes, but in no way is limited to accent neutralization, acquired knowledge of American slang, current events, current weather, and entertainment news (National, 2003). In a sense, they have to be fluent in American culture, despite the fact that they are half way around the world.

India is the leader in offshore technology transplantation; however, it by no means represents the only country that is actively pursuing development via IT. Other top contenders include China, The Philippines, Jamaica, the Dominican Republic, and Barbados. The Philippines could become a worthy adversary of India in the near future as it has the advantage of speaking American English rather than British English and has a literacy rate of 94 percent. Additionally, the Philippines is a U.S. protectorate (Schelemetic, 2002). The Caribbean islands are also becoming major world players because of their close geographic proximity to the United States (Bibby, 1996). Since the IT outsourcing market is growing so rapidly and is capable of providing real developmental changes for a country, the competition to attract a multinational company is getting much tighter. India offers tax breaks, real estate subsidies, and drops the import tax on technology in an effort to draw the market into its borders (Dulamday, 1998).

## **Demographic Trends**

“During the past five decades, world income has increased sevenfold (in real GDP) and income per person more than tripled (in per capita GDP) but this gain has been spread very unequally – nationally and internationally – and the inequality is increasing. Between 1960 and 1991, the share of world income for the richest 20 percent of the global population rose from 70 percent to 85 percent. Over the same period, all but the wealthiest quintile saw their share of world income fall – and the meager share to the poorest 20 percent declined from 2.3 percent to 1.4 percent.” (UNDP cited in Stark, 2003) Technology could create the bridge that is needed to mend the chasm between the Industrialized, Developing, and Least Developed Worlds. Distributed work could provide the platform necessary to utilize the technology in an economically productive manner. It is projected that in 2050, 97 percent of population growth

will occur in countries that are currently classified as Developing. This number would be even higher if it were not for the global epidemic of AIDS that has so strongly affected many less developed countries (Iyer, 2000). Forrester Research has estimated that Russia, Pakistan, India, Vietnam, and China will become sites for more than 3.3 million American jobs by 2015.

There is clearly a synergistic relationship between the outsourcer and the host country; however, that is not to suggest that all implications are positive. One implication that has been largely ignored in the public arena is security. While not usually an issue, security concerns could be a very real threat to information security.

## Homeland Security Implications of Outsourcing

Technology, such as computer chips and software, are outsourced to overseas venues and thereby pose the potential to create problems for national security. Many question whether outsourcing, although usually beneficial for the corporate world, is a practical option given the rise in computer crimes (Beaver, 2005). “Outsourcing to offshore locations exposes countries to greater risks of many types, such as country or political instability, regional turmoil, unstable economics, poor infrastructure, lack of exposure to Western business culture, and data insecurity.” (EBS, 2004) The greater the number of people who have access to sensitive software and IT resources, the greater the risk to security. Outsourcing IT security means many people have access to your electronic information, passwords, and network. The resources that companies move overseas are not held to as high a standard as the resources in the U.S. According to Gartner, many companies do not manage their outsourced functions the same way they would if they were in-house (ComputerWorld, 2005). They often ignore the sensitivity to privacy for consumer data, thus creating the potential for risks to information sanctity. Corporations are generally hesitant to disclose information concerning their protection policies (Shermach, 2005). While their reason for retaining their outsourcing security policy is never stipulated, it could be assumed that they know security is not their priority.

With an increasingly networked world, many companies are striving to become more integrated with the international marketplace, most wanting to implement an international business strategy in the overall plan for their companies. A growing amount of business is being sought in areas of homeland security and defense applications by these organizations, which in turn, outsource portions of the labor, which may jeopardize the security of the overall product. Often the rationale for outsourcing labor abroad is decreased economic bottom lines; however, outsourcing also frees up space in house to concentrate on core competencies.

Manufacturing was the first industry to capitalize on outsourcing labor abroad. The first jobs sent overseas were highly repetitive in nature, and often involved little skill. However, as corporations discovered the untapped potential internationally, the jobs outsourced became increasingly specialized to include highly skilled occupations. Many of the jobs outsourced in the past five years have involved information technology. Information technology has historically been much more economical abroad due to reduced costs of living and decreased salary expectations. There is a lack of availability of U.S. citizens with advanced degrees to work in technical positions that require U.S. citizenry status (Studt, 2004). Some countries, such as India and China, have a large number of citizens who possess advanced technology degrees. In some cases, it is easier to locate an individual with the right skill set in a country other than the United States.

Almost 40 percent of IT companies in Silicon Valley, CA have hired overseas staff (Contractor, 2005). The largest percent of these employees are in India, where most of the

population speaks English. Many English speaking areas, like Dubai, UAE, are offering tax-free zones in which American companies can do business-processing outsourcing work without the responsibility of paying any taxes to the host nation (Shermach, 2005). Also spurring the outsourcing trend are Indian and Chinese graduates who obtain degrees in the US and European countries and move back to their native countries. An estimated 225,000 jobs relocated overseas in 2004. To demonstrate the power of the trend, India is currently the second largest exporter of software in the world and its service sector contributes almost 51 percent of the country's GDP (CoVisible, 2004). However, Indian firms are suffering from retention issues, some firms suffer from as much of a 50 percent annual attrition rate due to increased competition within the market and the lure of higher salaries elsewhere (Reuters, 2005). With rising Indian salaries and shipping costs, it has become almost as economical to relocate to Canada as it is in India, and Canada also offers additional advantages. Thus, Canada has recently become a hotspot for US outsourcing. Besides being next door to the United States, Canada offers a highly educated population with close familiarity to the United States and its culture (Pollack, 2005).

Many companies which have outsourced labor are contractors doing business under government agencies. For example, Unisys, an IT services company, outsources work on the Transportation Security Administration's Operation Safe Commerce, which is a program designed to protect containerized shipments that arrive in US ports. TSA is a step towards expanding the company's ventures in information security. At the center of Unisys' outsourcing revenue is imaging check processing, which according to the new Check 21 law, allows financial institutions to send images of written checks instead of the originals. About 50 percent of all the checks written worldwide are handled with Unisys systems (Marlin, 2004).

Corporate America has vastly taken advantage of new resources offered by outsourced labor; however, the sectors that are outsourcing could be somewhat troubling, in that many companies who are considered DoD contractors routinely incorporate outsourcing business models, and often to countries around the world. For instance, The General Electric (GE) Company, which has 305,000 employees as of 2003 and about \$10.6 billion in military contracts, receives approximately half of its \$134 billion revenue from overseas sources, with almost 50 percent of its employees residing outside the United States. General Electric was one of the pioneers in outsourcing, setting up manufacturing and service locations in India as far back as 1902 (Chandrasekaran, 2004). Its presence can be found in over 100 countries such as Kuwait, Lebanon, United Arab Emirates, China, and Pakistan (General, 2005a). While specific functions performed at each corporate site are not publicly accessible, some of the locations do give cause for concern. Moreover, the new Homeland Security Protection Platform which detects explosives for civil aviation authorities is housed within the GE Infrastructure Branch. A major technology center for the Infrastructure branch is located overseas in Hamburg, Germany (General, 2005b). GE's Capital International Services (GECIS), located in India, offers services such as database consulting, IT help desks, software solutions, knowledge services, analytics, remote network monitoring, data mining and modeling, e-learning, and customer contact centers (EBS, 2004).

Lockheed Martin has approximately 130,000 employees as of 2003 with revenue of \$35.5 billion. In early 2005, Lockheed Martin acquired The SYTEX Group (TSG), which provides technical support and IT solutions for the US Department of Defense (DOD) and various other federal agencies (IT, 2005). More than 3,000 people work for TSG in the United States and overseas, in countries such as Panama (SYTEX, 2005).

With a 2003 total revenue of \$52 billion a year and 157,000 employees, Boeing outsources work to Australia, China, Germany, Japan, Korea, and Russia, among others. Boeing is an industrial aerospace contractor that works on projects such as aircraft and weapons systems and launch and orbital systems (Worldscope, 2005).

The Carlyle Group, with an operating revenue of \$318 million, is a private equity firm and has offices in countries like India, China, South Korea, Russia, and Mexico (Business & Company, 2005b).

Halliburton mainly offers oil and gas services and has a total revenue of \$16 billion. (HalliburtonWatch, 2005) Halliburton employs over 100,000 people in 120 different countries, making the company one of the largest suppliers of oil and gas services in the world. The company has locations in Algeria, Nigeria, Egypt, Equatorial Guinea, Argentina, Colombia, Mexico, Panama, Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates, Yemen, Romania, Czech Republic, Indonesia, Malaysia, Philippines, Vietnam, India, Azerbaijan, Kazakhstan, China, Pakistan, and Russia (Halliburton, 2005).

Banks routinely utilize foreign locations as centers of software development for applications used in financial exchanges. For example, Citigroup and Bank of America Corporation routinely outsource to Indian locations, and are beginning to expand their software development efforts to China (Young, 2005). The banking industry represents yet another sector of business to shift information overseas.

Governments are increasingly using outsourcing as a mechanism to reduce workload and lower operating costs; however, often the governments will outsource tasks to other countries, which could have immense security implications. Canada has recently begun outsourcing their temporary visa application services to nine different locations within India (Duttgupta, 2005). The applications for visas can be directly submitted at that location, and are then forwarded to two main offices within India for processing. If operations go smoothly, Canada plans to extend their visa processing offices to Asia and Africa and to broaden their services to include processing permanent resident visas (Duttgupta, 2005).

Canada has selected to outsource visa application processing in light of a significantly increased number of applicants. There was a 40 percent increase in temporary visa applicants to Canada from 2003 to 2004 (Duttgupta, 2005). Part of the reason for the increase in applicants for temporary Canadian visas is due to an increased difficulty in obtaining a temporary US visa; however, once a Canadian visa is obtained, it is far easier to crossover into the United States. The border between the United States and Canada extends 4,000 miles, and checkpoints are often only supported by one guard. Other means of transportation may also be compromised. Over 1,000 airport security uniforms and badges were stolen in 2004, some of which later turned up on eBay (CBS, 2004).

## **Attacks on Outsourcer Locations**

A troubling trend has begun to develop overseas. Terrorist organizations are beginning to target sites that are destinations for US and European outsourcing. Even corporate America is not immune to the ramifications of an interconnected world. When a company or government entity outsources a job, it not only inherits the economic implications, but also the sociological, technological, environmental, and political ramifications.

Recently, Delhi police have obtained evidence implicating the Laskhar-e-Toiba (LeT) group planning a possible attack on IT companies in Bangalore to hinder the economic development of India (Sharma, 2005). LeT is a separatist group which wants independence for

the Indian state of Jammu and Kashmir. LeT is being aided by groups from Pakistan, which are also occupying Kashmir. Bangalore is a technical epicenter in Asia, making the city a prime target for disruption. Wipro, Ltd., which is located in Bangalore, is a software development and services outsourcer which has received telephone calls warning the company about bombs on the premise (Riberio, 2005b). Among Wipro's clients are companies such as the General Electric Company, Prudential, Friends Provident, Nokia, Microsoft, and the Scottish Parliament (Independent, 2005; General, 2005c). Infosys, another Bangalore headquartered software firm, has also been the target of recent bomb threats, causing services to be shut down (Reuters, 2005b). In addition, Bangalore houses many multinational corporations that are headquartered in the United States, such as IBM, Intel Corporation, Microsoft, Motorola, and America Online. Often, separatist groups like the LeT lash out at any type of foreign presence to send a message not only to their own government, but also to the government outsourcing the labor and work (Riberio, 2005a).

### **Outsourcing Human Resources**

Many companies are choosing to focus on their core business functions while sending everything else overseas for others to handle. A recent shift in outsourcing has been moving human resource services overseas. These services include employee benefits, for example life and medical insurance; payroll administration, such as producing checks and handling taxes; human resource management, which can range from background interviews to the hiring and firing of employees; etc. Outsourcing human resources has grown to become a \$25 billion market, and it is estimated that 85 percent of American employers will outsource at least one human resource function this year (Anderson, 2005). When human resource information moves overseas, employees often feel the need to be reassured that the information will be secure and handled with sensitivity. It is difficult to believe that one's private information, especially when it concerns medical records and salary information will be treated with discretion when located on another continent. The United States is much less stringent on outsourcing employee medical records than other nations. Medical records can be transferred overseas according to the Health Insurance Portability and Accountability Act (U.S., 2000). There is also no US law prohibiting social security and driver's license numbers from being sent overseas. Employers are not able to guarantee 100 percent privacy and security of information (McDougall, 2005). However, in most situations, the employees are never consulted concerning the distribution abroad of their personal information.

In addition to privacy concerns for the individual, many feel that HR services are so closely linked strategically to the organization itself that outsourcing these functions seems like bad business. Most employees would prefer to have HR personnel in-house to handle problems related to the job. Adding to the negative psychological factor of outsourcing HR, employees are more inclined to have confidence in people they see and interact with on a regular basis. Overall, "the fear of losing jobs, losing control over confidential data, ethics and quality of outsourcing vendors, security breaches and overall confidence in the vendor" pose risks to an organization (Jasrotia, 2005).

Issues of trust and excellence of services are being brought to the forefront of the human resource outsourcing debate. India, at present, faces a major drawback in the HR outsourcing world. The Indian government has been slow to enact laws to protect data that is outsourced from various overseas clients. Privacy concerns such as this are another example of the possible negative effects of outsourcing. Especially alarming is that even though safeguards to ensure the

privacy of personal information are not yet in place, the HR outsourcing market is growing at a rate of 50 percent a year (Jalan, 2005). However, the catch-22 is that while the lack of security and data privacy is keeping most HR outsourcing business from big companies, smaller companies, which make up 98 percent of the market, are more indifferent about the rules required by industry-specific and state laws (Majumdar, 2003).

## **Outsourcing Combat**

A recent development in the outsourcing market relates to military operations. Private companies are now aiding foreign armies in combat and battles. The International Charter Incorporated of Oregon (ICI) has been active in conflicts in Sierra Leone, Haiti, and Liberia. ICI is only one of several companies that have found this new niche in outsourcing. ICI employees have been shot at, returned fire, and taken part in skirmishes considered too unsavory for American troops. Many employees of private military companies are ex-military, and usually have matriculated from the special services (Singer, 2005). Often these companies are working under contracts from government agencies. In fact, half of the 24 private military companies (PMC) in the US have been awarded contracts by the US Department of Defense since 1994. This “foreign policy by proxy” has become a pattern since the Cold War. Ninety other such private military firms working in 110 countries around the world have participated in this new trend of military outsourcing. Many private military companies carry out tasks that are usually supplied by some military force. Some of these tasks are military training, logistics, combat and security during conflict, and intelligence. Most of these companies are based in the US, Great Britain, or South Africa with Africa, South America, and Asia receiving their services (Peterson, 2002).

Few private military companies or contractors are ever held accountable for misdeeds conducted while engaged in overseas operations. Employees of Titan Corporation and CACI were present during the alleged torture incident at Abu Ghraib prison (Politi, 2004). A report by the US Army claims that six employees of these two companies were responsible for 36 percent of the incidents alleged to have occurred. There is an indistinguishable line between civilians and soldiers for personnel of private military companies. The Freedom of Information Act does not apply to private military firms, thus reducing the transparency of the organizations. Another concern is that when these personnel are captured, due to the hazy legal nature of PMCs, enemy soldiers have the discretion of defining their status as military or civilian (Singer, 2005). PMCs may also sell their services to foreign countries due to the DOD’s Foreign Military Sales Program (FMS). An example would be the Saudi Arabian National Guard’s contract with Vinnell to train their soldiers (Peterson, 2002).

The danger here to homeland security is that most of the personnel in these companies are former US military personnel whose function is to train soldiers in foreign armies. These people bring with them their knowledge and expertise of combat and tactical training. Although it is certain that PMC employees would never knowingly disclose any classified information from previous ventures with their respective governments, it is up to the reader to draw his or her own conclusions on how generic their training of foreign militaries will be. In addition, the involvement of PMCs is often in highly volatile countries with unstable governments. The risk exists that the bonds that tie such governments to international allies may not be set in stone.

## **Conclusion**

More emphasis needs to be given to standardizing screening and background check processes by companies that outsource overseas. Also, companies need to be sure that safeguards are in place to protect corporate and consumer information, whether these safeguards are legislation or secure networks. Outsourcing can be a highly beneficial exchange for both locations involved; however, with it comes risks that should be acknowledged and addressed.

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