

Outsourcing: Inside Out and Outside In

A Thesis

by

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ABSTRACT

As sure as day turns to night, there are both advocates and opponents to outsourcing. And often times, their viewpoints differ as drastically as night does day. Doing a quick search on Google for “outsourcing” is impossible. Outsourcing alone returns 3,390,000 English pages. And these results do not take into account the many outsourcing pseudonyms such as contracting or consulting. However you coin it, the topic of outsourcing makes for a very heated debate.

For proponents, outsourcing offers many advantages such as increased focus on core competencies and reduced costs. However, critics argue that these advantages are not without a price and often times, quality is secondary to cost. Since there are strong arguments for both sides, rather than take any one viewpoint, this paper will play devil’s advocate, arguing both the advantages as well as disadvantages of sending work outside an organization.

Regardless of people’s attitudes toward outsourcing, it is here (or should I say there) to stay. It is happening across industries from financial services to healthcare to automotive industries. Consequently, large American corporations such as Citigroup, United Health, and General Motors are investing highly in it.

From 40,000 feet, *Outsourcing: Inside Out and Outside In* will approach the high-level topics surrounding outsourcing, including macro/micro economics to outsourcing risk. The paper will also *zoom* to ground level to tackle additional outsourcing topics such as vendor alignment and legal issues. The discussion will conclude with a look at how Citigroup manages its numerous outsourcing initiatives.

Outsourcing: Inside Out and Outside In

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Chapter I – Introduction

"If we knew what it was we were doing, it would not be called research, would it?"
(Albert Einstein)¹

1.1 – *Pre-Introduction*

Throughout various articles found in newspapers, magazines and speeches over the past couple of years one of the big topics has been ‘*outsourcing*’, particularly ‘*offshore outsourcing*’. From India to China, many corporations, governments and private institutions are taking advantage of the low cost work available outside the walls of the company.

This paper will feature a cornucopia of quotes, from Indian consulting companies putting forth spurious statistics around how outsourcing will actually create more jobs, to U.S. politicians claiming how jobs are moving offshore and will destroy the U.S. economy and in effect destroy the World economy. For the most part, many of the quotes put forth by various advocates and opponents are in fact rooted in higher-level quotes from viable sources such as Meta Group, Forrester and Gartner. So to kick off the paper, a couple quotes from these companies would be a good start.

Meta Group

Companies are continuing to turn to offshore outsourcing, because it offers substantial savings on labor, with average salaries that are up to 60 percent less than in the domestic market. But hurdles such as language barriers and cultural and political differences will prevent a major increase in the use of offshore labor, even if it makes steady progress (as cited in CNET News.com, 06/09/2004).²

Gartner

Through 2004, outsourcing will continue to drive the growth in the worldwide IT services market, with IT management and process management growing faster than consulting services and development and integration services (as cited in CNET News.com, 06/23/2004).³

Forrester Research Inc.

The number of jobs moving offshore is accelerating in the short term, and it now expects that 830,000 jobs will move offshore by the end of 2005. That's a 40% increase from a previous estimate made by the Cambridge, Mass.-based research firm (as cited in Computerworld, 05/17/2004)⁴.

1.2 – Introduction

Regardless of the political, personal, economic backlash surrounding outsourcing, it is happening and rapidly expanding across industries. Although radically being introduced across industries for information services (Help Desk, Call-Centers, etc), the concept of outsourcing predates the name itself and can be found outside information services in areas such as manufacturing, finance and healthcare. In turn, each has opened its doors to outsourcing to make it an integral component of the company.

As it affects their very lifestyles, it is no wonder *outsourcing* is a popular topic among technology workers. What was an immensely popular field in the late 1990's has drastically contracted on fears that much of the future in technology lies in other countries. The question now looms, "Is there really an IT shortage?" The answer, according to the U.S. Department of Labor's Bureau of Statistics is that there is growth, but not necessarily a shortage. We will identify in the next chapter that although world is becoming increasingly dependent on IT, the rise of IT workers in other countries is helping feed the supply to this growing industry. However before we open up any cans of worms (many of which this paper will discuss), a brief breakdown of the paper will be helpful.

1.3 – Paper Breakdown

After reading the first paragraph, or header quotes, or even the title, you are thinking, "not another paper about outsourcing." And I admit, the topic has been done (albeit not by me). Nevertheless, yes, the central topic of this paper is 'outsourcing'. Yes, the paper will discuss many of the questions surrounding outsourcing. However, this paper will aim to delve deeper into the inherent risks

and problems associated with outsourcing. In discussing the broad ramifications of outsourcing the paper will focus on some of the hot topics surrounding the subject, beginning with the economics of outsourcing and culminating with a case study of past and present outsourcing at Citigroup. The paper will aim to cover a breadth of knowledge, impressed over the past two years through my studies with Stevens. The chapters will include, however briefly, topics from each area of study. The paper will follow the following breakdown.

Part One – Outsourcing @ 40,000 Feet

Following the introductory chapter (**Chapter I**), in logical succession, will be **Chapter II**, which will delve into the economics surrounding outsourcing. This chapter will provide a background on free trade and the origins of outsourcing. **Chapter III** will continue to show where outsourcing is occurring at present and how the Information Age and increases in the speed and clarity of information has fueled its cause. **Chapter IV** will look at outsourcing at present; what segments are being outsourced, why companies are outsourcing and where companies are looking to outsource.

This will end *Part One*.

Part Two – Outsourcing From the Ground Up

We will move away from the generalities of outsourcing in Part Two.

In **Chapter V**, outsourcing relationships will be looked at as well as the various risks surrounding outsourcing. Building on Chapter V, **Chapter VI** we will introduce a variety of management methodologies and models that look to minimize a company's exposure to project failure. **Chapter VII** will discuss vendor assessment criteria and introduce valid models for assessing an outsourcing company. **Chapter VIII** will show the various legal implications that can arise from outsourcing.

This will end *Part Two*.

Part Three – Taking a Step into Reality

Chapter IX will come full circle to incorporate all topics discussed as well as adding a few new topics such as insourcing. In **Chapter X** we will look at my own company, Citigroup. I have been with Citigroup, particularly Global Fixed Income Technology, for four years and will incorporate much of my experience as I witness the organization (in respect to the financial industry) begin to mature in its outsourcing initiatives. The last chapter, **Chapter XI**, will be lessons learned. Lessons Learned will focus primarily on where I found research to be most revealing and effective, Additionally, the lessons learned will also deal largely with my overall perception surrounding outsourcing, how the industry is being affected and how it affects me personally working for a company which relies heavily on outsourcing to reduce cost, meet project deadlines and concentrate on core competencies.

This will end *Part Three*.

This paper, while a requirement to complete 6 credits, is a stepping-stone (hopefully) into further research down the line.

Part Four – Appendices

Part Five – References

Part One – Outsourcing @ 40,000 Feet

Chapters II through IV will look at outsourcing from 40,000 feet. The primary focus of *Part One* is to familiarize the reader with outsourcing and bring the reader up to speed on today's outsourcing debate. *Part One* focuses on basic areas of outsourcing from economic topics such as globalization and supply vs. demand (Chapter II) to current technology trends which help fuel outsourcing (Chapter III) to the basic elements of outsourcing including who, what, where, and how (Chapter IV).

Chapter II – Outsourcing: Basic Economics

As a wise man, wishing anonymity, once said, “Let us begin at the beginning.”

(Anonymous, Unknown Date)

2.1 – Introduction

Before we can determine the pros and cons of outsourcing, the fundamental concept of outsourcing should be established. Contrary to what some would believe, the roots of outsourcing date far earlier than the booming technology industry of the 90’s, even before the auto industry moved operations offshore to Asia during the 80’s. Some believe that the official term ‘outsourcing’ came circa the 1960’s when Electronic Data Systems, founded by Ross Perot, would tell prospective clients the following:

You are familiar with designing, manufacturing and selling furniture but we're familiar with managing information technology We can sell you the information technology you need, and you pay us monthly for the service with a minimum commitment of two to ten years (Wikipedia, 2004).⁵

Maybe this is a fair beginning to when companies actually began moving non-core, industry standard applications outside, such as payroll and billing, but the term outsourcing is all too often connected primarily to Information Technology. Although we will see in the next chapter how technology helped speed and increase a company’s ability to outsource, the overall concept of outsourcing dates even further back in time.

In 1776 the following excerpt can be found in Adam Smith’s *The Wealth of Nations*⁶:

It is the maxim of every prudent master of a family, never to attempt to make at home what it will cost him more to make than to buy...What is prudence in the conduct of every private family, can scarce be folly in that of a great kingdom. If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it of them with some part of the produce of our own industry, employed in a way in which we have some advantage.⁷

Can this be considered the beginning of outsourcing? Maybe, but if we were to truly identify the rising sun to outsourcing, maybe we can date even further back to the dawn of man, when there were hunters and gatherers. Hunters would hunt, gatherers would gather and together they would share in the “specialized” benefits each provided. But regardless of its origin, it is present today, and not leaving anytime soon.

2.2 – Free Trade

For the sake of argument, this chapter (paper in general) will look at outsourcing as if it were any other trade. Although the paper is not on the topic of free trade, macro or microeconomics, these fundamental concepts lie at the heart of the outsourcing debate. In theory, free trade formulates all subsequent theories, practices and problems relating to future discussions and debates about outsourcing. Free trade occurs when businesses are not restrained by the interference of government and/or regulation. For more than two centuries, economists have steadfastly promoted free trade among nations as the best trade policy. Building on Adam Smith’s ideas was British economist David Ricardo and his principle of "comparative advantage" or the idea that each nation should specialize in what it does best and trade with others for other needs. David Ricardo stated that free trade would produce shared gains for all nations.⁸

However, he assumed that the resources used to produce goods, or "factors of production", would not be easily moved over international borders, as is not the case with modern day outsourcing. As he states, comparative advantage is undermined if the factors of production can relocate to wherever they are most productive. In this situation, there are no longer shared gains and some countries win and others lose.

2.3 – The Growth of the IT Workforce

As we venture deeper into the economics surrounding outsourcing, we come to the topic of supply and demand. Information gathered by the U.S. Department of Labor capture one essence of the outsourcing debate. As the chart indicates, jobs in information technology will expand dramatically over the next 7 years. Scanning through the statistics below, brought to you by the Department of Labor’s Bureau of Statistics⁹, technology jobs are three of the fastest growing occupations. With an increase in growth, there will also be an increase in the demand for a more technical savvy workforce.

Occupation	Employment		Change		Education
	2002	2012	Number	Percent	
Medical assistants	365	579	215	59	Moderate-term on-the-job training Bachelor's degree
Network systems and data communications analysts	186	292	106	57	Bachelor's degree
Physician assistants	63	94	31	49	Bachelor's degree
Social and human service assistants	305	454	149	49	Moderate-term on-the-job training
Home health aides	580	859	279	48	Short-term on-the-job training
Medical records and health information technicians	147	216	69	47	Associate degree
Physical therapist aides	37	54	17	46	Short-term on-the-job training
Computer software engineers, applications	394	573	179	46	Bachelor's degree
Computer software engineers, systems software	281	409	128	45	Bachelor's degree
Physical therapist assistants	50	73	22	45	Associate degree

10 fastest growing occupations, 2002-12 (Numbers in thousands)¹⁰

The impact from the ‘baby boomer’ population is also yet to be determined. Many advocates of outsourcing declare a need for offshore jobs due to the potential loss of jobs when baby-boomers begin to retire. In 2004, the youngest of the baby boomers turns 40, the oldest 58 and there are 76 million baby boomers. Generation Xers, born between 1965 and 1978, number about 46 million, so there's a population shortfall of 30 million in the coming generational transition.¹¹

However, although many advocates of outsourcing look to these numbers as a valid reason to outsource, the numbers only show an estimated increase in growth and not a lack of supply. A study performed at the Center for Urban Economic Development at the University of Illinois at Chicago shows that since the onset of the United States' recession in March 2001, an estimated 403,000 IT jobs have been lost with nearly 50% coming after the recession's official end.¹² Combine this fact with the fact that in India, a technical hotbed, 54% of India's one billion plus population are under the age of 25.¹³ The main point is not to argue increased demand due to lack of supply but to identify that the point of equilibrium, where supply meets demand is yet to be determined.

2.4 – Globalization

The last topic in economics to be discussed is globalization. As we will see in the next chapter, innovation and technology are paving the way for a new economy, a global economy. Like outsourcing, there are many definitions of what globalization actually is. Globalization.com states at a top political and economic level, globalization is the process of denationalization of markets, politics and legal systems, i.e., the rise of the so-called global economy.¹⁴ The next wave in globalization is focused on the transplantation of entire IT departments offshore although this move is more complex and requires intelligent decision-making and management abilities.

Globalization can be seen as an evolutionary process, resulting from innovation and technological progress occurring over a period of many years. At the highest level, it refers to the increasing integration of economies around the world, particularly through trade and financial flows. The term also refers to the movement of people (labor) and knowledge (technology) across international borders. Additionally, globalization attempts to incorporate the cultural, political and environmental dimensions.

Of course the debate whether or not globalization is a good thing, like outsourcing, is an ongoing one. Advocates for globalization emphasize the

formation of a “global village.” Such a global village would bring together different parts of the world, increasing the possibilities of personal exchange, mutual understanding and friendship between the citizens of the world. A noble cause indeed. There is also an upside to the economics of globalization, whereby more freedom of trade and increasing relations among members of an industry can thrive. Opponents of globalization argue the negative effects of for-profit multinational corporations, which use substantial and sophisticated legal and financial means to circumvent the bounds of local laws and standards, in order to leverage the labor and services of unequally-developed regions against each other.

2.5 – Summary

The U.S. has entered into a new economic era where all workers will face direct global competition at almost every job level. This era didn’t result from one economic model but has evolved to the point where corporations, even individuals, are becoming increasingly more dependent on products and services found outside the locality of those individuals. The next chapter will provide a background into the Information Age and how this new global economy and interdependency on goods and services from external countries is fueled by technology.

Chapter III – Around the World in 80 Nanoseconds

Technology... is a queer thing. It brings you great gifts with one hand, and it stabs you in the back with the other.¹⁵
(Carrie P. Snow)

3.1 – Introduction

The previous chapter has shown how outsourcing is part of a global economy and introduced topics ranging from micro to macroeconomics. It showed that outsourcing is more than moving work outside a company; it is moving work around the globe. However, without the advancement of technology this global economy could never exist. This chapter will provide a glimpse into the Information Age and talk about the technological aspects of information that have fueled the ability to move work outside the walls of companies, to create 'virtual' companies throughout the world.

3.2 – Welcome to The Information Age

History is divided up into 'Ages'. Often times these ages are not clear until one age ends and another begins, such as the Industrial Age, or the Bronze Age. Many classify the period we are currently living in as the Information Age, or Computer Age. The main reason for the title can be explained by the exponential increase in speed and complexity of computing and communication (in particular, the communication of information). The Information Age no doubt owes its birth to the technology that fosters it from satellite technology, to silicon chips, to wireless communication and so on.

If the founding fathers (and there were many) of the modern day computer ever dreamed that computers would evolve to where they are today, people surely would have questioned their sanity. But computers have become the cornerstone of the industrialized world. In fact, it is safe to say that much of the way business is done today couldn't be possible without the advances in technology.

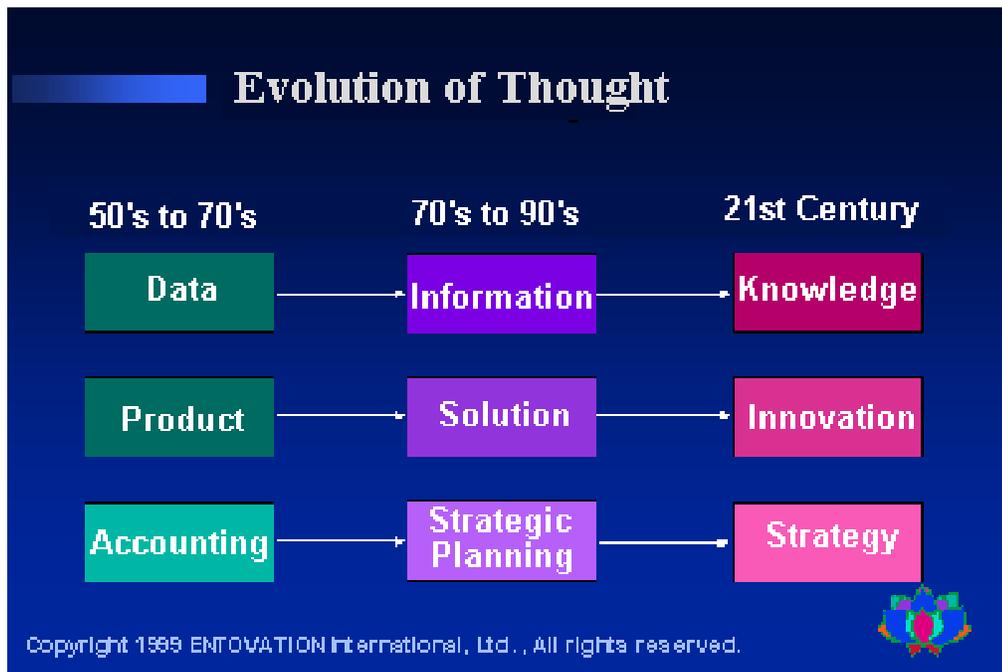
IT spending in financial services and banking is the highest of all industry sectors in the U.S. due in part to real-time services such as online banking, transactional banking, risk management, analytics, etc. The Intel Corporation holds the following belief about technology:

A common strategy is to extend service access through new technology channels, particularly electronic ones capable of automated 24-hour service. By making services more convenient and accessible, new technologies increase customer satisfaction, improve retention, attract new customers, and create opportunities for a company to increase revenue.¹⁶

Technology not only provides financial companies a leading edge, but all industries benefit from information technology. Take healthcare for example, the U.S. Federal Drug Administration (FDA)¹⁷ insists that much of the modern day healthcare would be impossible without the advances in technology over the past 50 years. New technologies are breaking down the traditional barriers between drugs, tissues, and devices.

3.3 – The Knowledge Worker

As industries begin to embrace technology as a frontrunner for growth, there has been a shift from manual labor skills towards knowledge based skill sets. The following diagram aims to illustrate just that. In only a matter of a few decades, corporations have evolved from product/solution and data/information oriented companies to innovation and knowledge-based organizations.



Evolution of Thought ¹⁸

However without an innovative and knowledgeable workforce such an evolution could never take place. So with the Information Age comes a new era of worker, the knowledge worker. In Peter Drucker's 1959 book, *Landmarks of Tomorrow*, the term "knowledge worker" includes those in the information technology fields, such as programmers, systems analysts, technical writers, academic professionals, researchers, and so forth. The term is also frequently used to include people outside of information technology, such as lawyers, teachers, scientists of all kinds, and also students of all kinds.¹⁹

This new breed of worker no longer involves manual labor skills, but requires formal education and the ability to acquire and apply theoretical and analytical knowledge. Peter Drucker states, "Above all, they require the habit of continuous learning."²⁰ Knowledge workers, whose expertise is hard to replicate and takes years to develop, are becoming the most coveted assets an organization has in a world of chronic skills shortages. Additionally, although these workers currently comprise roughly five percent of the United States' 138

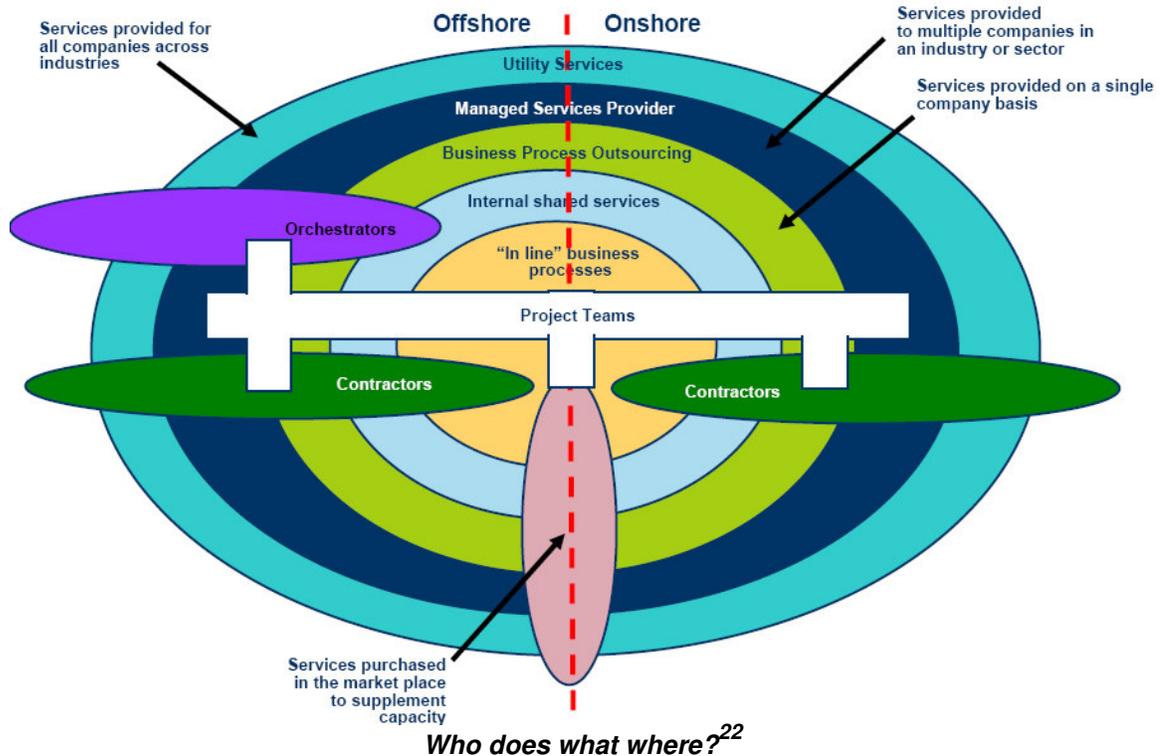
million-person workforce, in the past 50 years, more than half of America's sustained economic growth has come from this small segment of the workforce.²¹

3.4 – The Virtual Workplace & Outsourcing

With the advent of the Internet and increasingly faster network speeds it is not unrealistic for a close member of a workgroup to be thousands of miles away. Although the reasons why organizations are outsourcing will be discussed in later chapters, how they are able to outsource is directly related to the advances in technology and creation of *virtual teams* around the globe. In a *virtual team* model, geographically distributed teams work in tandem from multiple locations worldwide. The benefits of this are two fold. Collaborative technologies facilitate the use of expertise across global locations with minimal travel expense and results in cost optimization by leveraging lower cost locations.

In typical virtual workgroups an offshore team becomes an extension of the onsite team because both work on the same development environments that are remotely connected through technologies (computer networks, internet, email, or telecommunications). Throughout the Software Development Life Cycle (SDLC) there is day-to-day interaction between on-site and offshore teams and check-in/out from the client development environment.

The diagram on the next page, taken from CapGemini Consulting, shows a typical organization structure for a large organization. As organizational structures become more complex (better defined, but more complex), greater challenges exist for management to meet a handle the complexity. Such topics will be discussed in greater detail in *Part Two*.



3.5 – Summary

From wireless technology in coffee shops to clerk-free checkouts at grocery stores, technology has largely become the center of daily activity for much of the industrialized world. In turn, the IT knowledge worker, whose job it is to develop and maintain such technologies, has become a critical piece of the puzzle. Consequently, as today's technology becomes more advanced to allow for quicker and more efficient communications around the globe, a shift from an onsite to virtual workplaces has begun. As a result, for certain IT services and functions, workers are able to be as productive working in virtual workspaces as working onsite. This has led to various companies looking to lower-cost markets around the globe to meet its technology demands of the future.

Chapter IV – Outsourcing Today



(Jeff Koterba, 2004)²³

4.1 – Introduction

Chapter II showed the history behind free trade and forced us to look at outsourcing as any other trade. In Chapter III we moved forward to show how the Information Age and need for knowledge workers are exponentially speeding the movement of work outside the company and around the globe. In this chapter we will look at outsourcing from 40,000 feet. We will identify which industries are outsourcing (and why), what is being outsourced (and why) as well as some of the basic elements of outsourcing.

4.2 – Outsourcing, redefined...

Chapter II identified the general concept of outsourcing as a strategic management tool that involves the restructuring of an organization around its core competencies, but provided no strict definition. Pinnacle Research has defined outsourcing as follows:

Outsourcing: Inside Out and Outside In

Outsourcing is the process of procuring services or products from an external service provider with a view to curb costs, replace in-house capabilities, and thereby reduce the time period of projects. Outsourcing is thus a full transfer or delegation of an organization's facility management functions to an external firm.²⁴

For many, the first pictures that come to mind when they think of outsourcing are India, or technology; therefore, before we dive headfirst into the subject, maybe a formal definition in terms of offshore outsourcing is in order. For the scope of this paper, we will define offshore outsourcing as any company looking to outsource to less developed countries in order to capitalize on lower cost labor. This paper will focus primarily on offshore outsourcing, not simply because of its controversial status, but also because it considers the most extreme circumstances, where total realized goals have the potential to be reached.

4.3 – Who is outsourcing and why...

If you can think of an industry, chances are it is outsourcing, has outsourced or plans to outsource in the near future. This includes state and federal government agencies, insurance companies, financial institutions, non-profit organizations, hospitals, and publishing companies. A recent study by Forrester Research found that 40 percent of Fortune 1,000 companies are currently outsourcing some of their processes offshore²⁵. Additionally, Gartner Research²⁶ found that financial services and central government currently have the most billion-dollar deals going and high-tech industries account for seven of those big deals (numbers not comforting for a 5th year IT worker @ Citigroup) (Gartner, 2004).

The chart below shows how very real outsourcing will become in the next decade. Tech jobs are among the highest percentage to be transferred.

Number of U.S. jobs moving offshore

Job category	2000	2005	2010	2015
Management	0	37,477	117,835	288,281
Business	10,787	61,252	161,722	348,028
Computer	27,171	108,991	276,954	472,632
Architecture	3,498	32,302	83,237	184,347
Life sciences	0	3,677	14,478	36,770
Legal	1,793	14,220	34,673	74,642
Art, design	818	5,576	13,846	29,639
Sales	4,619	29,064	97,321	226,564
Office	53,987	295,034	791,034	1,659,310
Total	102,674	587,592	1,591,101	3,320,213

U.S. Department of Labor and Forrester Research, Inc²⁷

Traditionally, outsourcing has been a cost-cutting maneuver, especially in economic downturns, as in 2001. Analysts from Gartner urge organizations to think more strategically. Linda Cohen, managing vice president at Gartner puts it:

Saving money may be [the] primary initiative, but it must not be only initiative in an opening address. Companies can outsource either to achieve efficiency, to enhance the business or to transform the business, she said. It's rare that saving money is the sole incentive.²⁸

Although there are numerous reasons to outsource, current wisdom dictates that the primary reason a company should look to outsource is to regain and improve focus on strategic business processes. Outsourcing allows a company to focus on broader business strategies while having the less strategic aspects of a business performed by an outside expert.

A second major reason for outsourcing is to curb operating expenses and reduce cost. Through the selection of vendors that specialize in certain areas of IT, outsourcing providers bring economies of scale to a company. A third major reason companies look to outsource is due to a limitation of internal resources. Since certain industries, like financial, are not in the business of technology, per

se, outsourcing permits an organization to redirect its resources from non-core activities toward activities that have greater return in serving the customer.

4.4 – What is being outsourced...

If you can think of an area within IT, the chances are it is being outsourced. While some of the moves are strategic in terms of business goals, others are simply to lower cost. The following is a comprehensive list of some of the elements currently being outsourced:²⁹

General Information Technology Services Market:

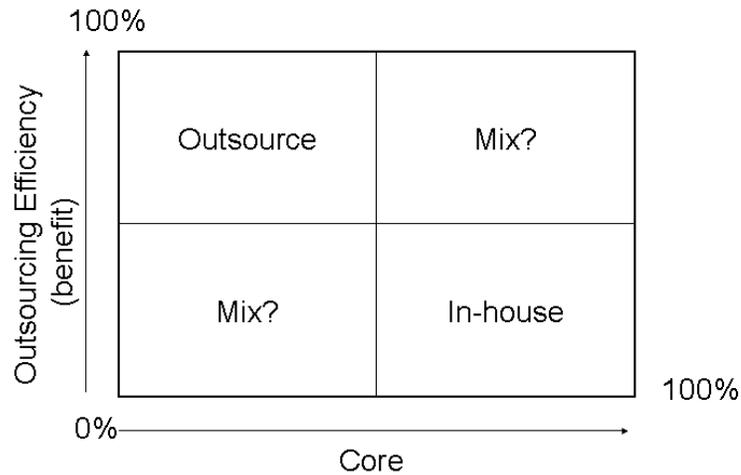
- Contracting.
- Consulting.
- Systems development.
- Integration of business systems.
- Integration of infrastructure.
- IT management.
- Production maintenance and support.
- Infrastructure support (such as data center, network, security, administration, Web).
- Education and ongoing training.

Related Services

- Business process IT-enabled services.
- Offshore business process (remote services).
- Service providers (IT utility, ASP, BSP, ISP, xSP)
- Specialized services (such as call centers, help desk, technical support).

In an effort to increase competitive advantage, some companies have gone so far as to outsource core as well as non-core IT services in hopes of identifying equilibrium between the value IT can bring and its cost. Companies should look to outsource non-strategic services. Simply because a function is outside a company's core competency does not mean that the function should be outsourced and vice-versa.

The chart below relates the efficiency of an in-house function to the service (core or non) it provides. Some functions are conducted more efficiently in house and could disrupt an organization if outsourced.



Determining What To Outsource³⁰

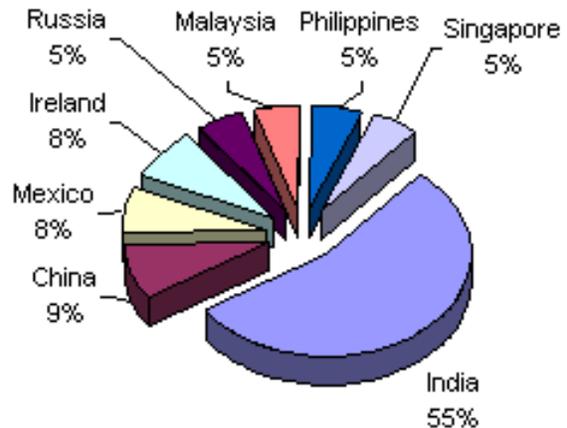
4.5 – Where is outsourcing occurring...

Fueled by technology, and information, outsourcing is spreading like wildfire across industries and around the globe. Gartner Research estimates that one out of every four high-technology jobs in developed countries today may be outsourced to emerging markets, like India, by 2010. Additionally, countries providing the low cost services are spreading as well, particularly India, which remains the undisputed offshore leader. However, Russia and China are emerging as strong contenders while other countries aim to stake a claim as well.

India is the venue of choice for most offshore outsourcing programs. Two key reasons for this are that English is widely spoken in this area and there is a strong supply of new talent entering their labor market each year (35% of India’s population is under age 15. Although there are many benefits to outsourcing to India, it remains a complex process to be identified in later chapters.

The chart below gives a geographic breakdown of outsourcing hubs around the globe.

India	51%
China	8%
Mexico	7%
Ireland	7%
Russia	5%
Malaysia	5%
Philippines	5%
Singapore	5%



Source: Computer world and InterUnity Group Inc., Concord³¹

4.6 – How vendors are being chosen...

Considering a company does not *jump* on the bandwagon and instead takes due diligence in planning a concrete outsourcing strategy, one of the critical steps is choosing a vendor capable of complimenting the company's needs. In essence, vendor selection is just as important as the decision to outsource. Although it is difficult to assess every aspect of a vendor, the following list provides areas a company should be looking at:

- Commitment to Quality
- Price
- Company Stability
- References/Reputation
- Flexible Contract Terms
- Scope of Resources
- Additional Value-Added Capability
- Location
- Cultural Match
- Existing Relationship
- Staff Turnover

We can agree that some of the areas listed above such as price, quality and contract management are on the list of top priorities, but what about some of these other intangible aspects such as a cultural match. Not only are these aspects difficult to determine prior to a contract, they are also difficult to control once a contract is signed. Just as cultural assimilation can be a large reason why corporate mergers fail, it can also be the number one factor influencing the success of outsourcing relationships.

Therefore it is paramount for a company looking to outsource to explore all avenues and crossroads in determining a vendor who will likely compliment and assimilate well with the company. Since this is a crucial topic it will be discussed in depth in *Chapter VII*, introducing various standards and capability models vendors are using to increase their market appearance.

4.7 – Summary

Outsourcing is emerging (if not already) as an effective tool in revamping strategies and benefits of business in a financially viable and pro-active manner. An intelligent outsourcing initiative looms largely on a company's ability to find equilibrium between IT services that incur cost and those that provide value. As a result, many companies look to send non-critical services and functions outside the company in order to maintain control over those business systems that are mission-critical.

Offshore outsourcing focuses on the contracting out of a company's IT services and non-core business processes to vendors in low-cost countries who specialize in those areas. This chapter identified the various reasons companies look to outsource, including increased business focus and decreased cost. *Part Two* will look to show that without a solid business plan a company can easily fall victim to the numerous pitfalls surrounding outsourcing.

Part Two – Outsourcing from the Ground Up

Part One identified many of the basic elements of outsourcing, beginning with the economics surrounding outsourcing, moving forward to a new era of information workers and ending with the reasons and approaches companies have with respect to outsourcing. *Part Two* will delve deeper into the outsourcing paradigm to discover what happens when things don't go as planned.

Chapter V – Pitfalls and *Super* Pitfalls of Outsourcing



(Dilbert by Scott Adams)³²

5.1 – Introduction

"When you have employees working for you, you have the ability as a senior manager to walk down the hall, and if there's a problem you grab a VP by the throat and say 'fix it!' When you have to solve a problem with an outsourcer, you have to rely on your relationship with them, and the agreement that was signed."³³

(Gregg Kirchoefer, 2004)

As identified in the quote and cartoon above, relationship management is key to any outsourcing initiative and just one of the many risks surrounding outsourcing. Many of the problems surrounding outsourcing occur when a company fails to manage its outsourcing initiative appropriately. This chapter will focus on the intrinsic risks surrounding outsourcing and areas companies should focus on if deciding to outsource. The next chapter will begin to look at how information science and the advent of methodologies and models are helping to minimize the risk companies face surrounding technology and software management.

5.2 – ‘Implied’ Cost Savings

Outsourcing is viewed as an active business strategy and, at the optimal level, enables a firm to focus on strategic business functions. Additionally, it frees a firm from resource and labor intensive functions, which can then be performed by experienced personnel in low-cost markets at lower costs. In fact, cost reduction is one of the major motives behind outsourcing, particularly offshore outsourcing. A study conducted by META Group estimates that in reality, most IT organizations save 15%-25% during the first year; by the third year, cost savings often reach 35%-40% as companies "go up the learning curve" for offshore outsourcing and modify operations to align to an offshore model³⁴.

However, it is important for companies to manage the expectations surrounding such savings. Although it may be the case that a full-time equivalent employee in India costs 40% less, hidden costs and differences in management structures can often lead to increased costs. Technology research and consulting firms such as Gartner and Accenture assert that organizations should not outsource simply to cut costs. Although outsourcing may look financially sound on paper, research firms warn that adopting an offshore model could have a negative impact on a company's business strategy, as well as the internal structure and culture of a company. However, some companies feel added pressure as they witness industry competitors rush the offshore market, regardless of whether those companies are benefiting.

Organizations must be aware that outsourcing solely to control cost can lead to alignment issues and increased, not decreased, costs down the road. Taking this into consideration, a corporation should develop an outsourcing strategy, then provide this strategy to its individual lines of business to allow them to outsource within its guidelines. Once an organization understands its outsourcing drivers, selecting which applications to outsource becomes a straightforward task. Unfortunately, many corporations fail to ask the simple questions choosing instead to jump on the bandwagon.

5.3 – Security Hazards

Aside from risks related to cost, security also becomes a major risk. If you think about it, outsourcing is not just sending requirements and specifications outside a company; it is in fact opening up a company to allow vendors access inside. Unlike physical labor, technology allows workers to operate from remote locations while work is being performed on central servers in various offshore locations. Whether it is software or hardware, access must be granted to outsourcing companies and with this access comes inherent risks. Many of these risks surrounding outsourcing are risks companies face every day but become magnified when work moves outside the span of control of a company.

According to Sanjay Joshi, Vice Chairman at Wipro Spectramind, “security is in fact one of the top concerns companies face when outsourcing IT services to external vendors.”³⁵ By placing the management and hosting of these services to an external provider, IT organizations give up much of the control over their own assets and information. Kelly Kavanagh³⁶, senior analyst at Gartner, Inc, says, “The key to successful and secure outsourcing agreements is understanding the security and privacy risks for a business process, application or technology function early in the outsourcing decision process.” In *Chapter VIII*, we will discuss that such decisions should be included in the initial contract.

5.4 – Knowledge Transfer & Loss of Innovation

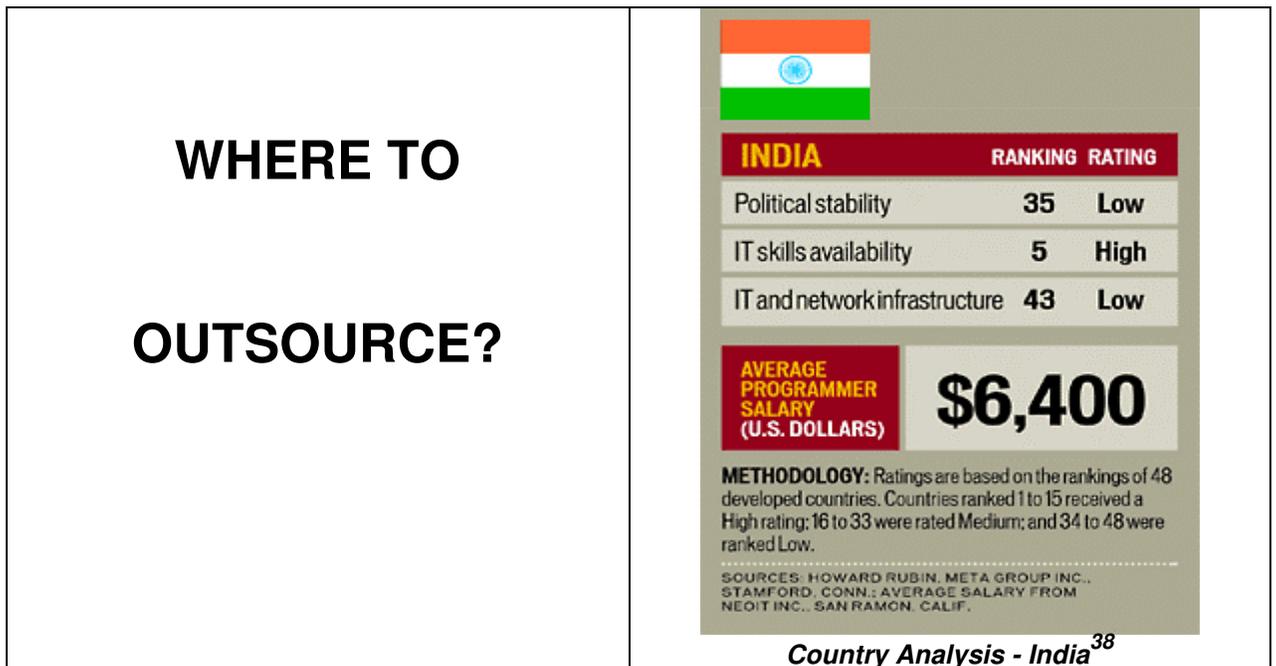
Another major risk concerns knowledge transfer. Although a product may be developed externally, it may require internal support. Therefore the transfer of knowledge from both sides of a contract is critical. When a product is delivered, if the transfer of knowledge is broken, the company will become dependent on that particular vendor. The same can be said for the organization that may need to transfer an abundance of knowledge to the vendor in order for a product or service to be delivered successfully. Most IT organizations experience a 20%

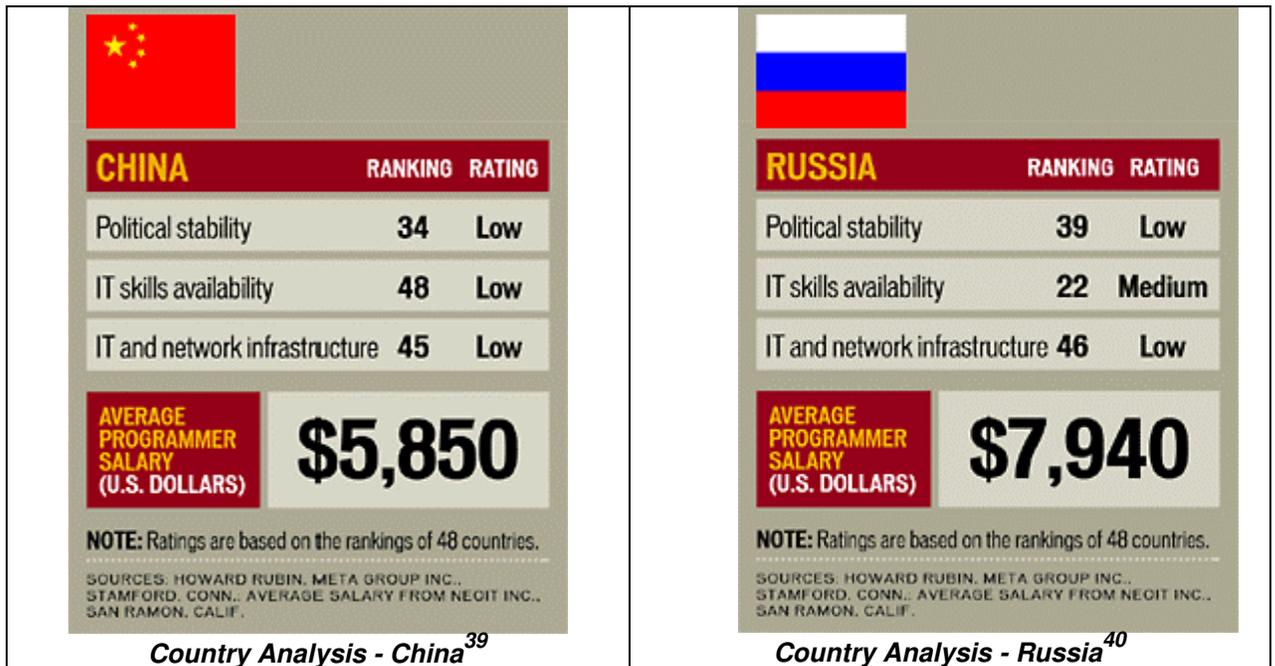
decline in productivity during the first year of an agreement, largely due to time spent transferring both technical and business knowledge to the vendor.³⁷

Additionally, when jobs are exported, there is a possible loss of innovation. Although difficult to measure, the pool of workers that helped build up a service or system, are now being replaced with individuals who may not have the company's best interests in mind. Therefore innovation and potential talent are being lost to individuals who have a limited stake in the success of the company (unless stipulated in a contract).

5.5 – Corporate Culture Shock

The location of a service provider is also a major risk. Many of the low-cost countries operate in countries where political and economic stability is not high. The charts below show rankings of India, China and Russia. Although this only displays rankings for three outsourcing alternatives, they are three of the more widely sought offshore locations (India being #1), due primarily for its technically skilled and lower-priced workforce.





Where to Outsource?

Another major risk surrounding outsourcing involves the careful management of the company's greatest asset, its employees. As more and more IT services are sent outside the company, what kind of reassurance will the company provide for existing IT staff? If employees do not feel valued, and are somehow threatened by outsourcing, they are likely to become disgruntled. Additionally, IT workers define themselves more by their profession than the company they work for and when a colleague's job is outsourced, they may feel devalued.

Assimilation of corporate and social cultures can also pose a threat. Although English is widely spoken in India, pronunciation, accents and everyday vernacular can vary tremendously. Many vendors put call center employees through accent training, even culture training. In addition, cultural differences include religions, modes of dress, social activities, and even the way a question is answered.

5.6 – Customer Relationship Management

No panacea

"The benefits and strategic value gained through outsourcing should be clear from the very beginning and should not be utilized for reduction in cost or as a solution to a problematic workforce." (Johann Kunz, 2001)⁴¹

The traditional understanding of outsourcing information technology services was in terms of a corporate divestiture where the people and the technology resources were turned over to another company to use and manage. The new way of thinking about outsourcing is not as a divestiture, but as a merger of resources. "It's not just 'give me the best price you can' anymore," says partner Michael Murphy of Shaw Pittman. "Companies that are outsourcing their IT functions need to think in terms of blending the best of what is part of the old organization with the benefits of what the service provider offers."⁴² While organizations are turning to external suppliers for outsourcing everything from payroll processing to data storage, the goal is better quality, more efficient service at lower costs. However, often times the results of an offshore contract do not meet expectations simply because companies outsource without a clear methodology. Managing expectations and maintaining relationships with service providers is essential for the success of any outsourcing initiative.

Although clear in concept, this is often very difficult to execute due issues ranging from corporate culture clash to the difficulties in managing an outsource provider across large distances and different time zones. Throw in regulatory concerns and proprietary information and relationship management becomes even more difficult. They are not imminent, however, and there are various ways organizations can seek to get the most from vendor relationships through innovative techniques as cosourcing, insourcing, and smartsourcing. These topics will be discussed in detail in *Chapters IX*.

Although it may be valid that each side strives to meet the original goals laid out, oftentimes one side (more often both) fails in achieving such goals. For this reason contracts are drawn up detailing the terms of the engagement,

including length, cost and end goals. However contracts are only as beneficial as to how they are handled. In turn, contract management is a critical aspect to a successful outsourcing initiative. Gartner found that over the past 14 years the average value of an IT outsourcing contract is \$47 million, the average duration of a contract is six years and the percentage of contracts worth less than \$100 million is 54% (Gartner 2003)⁴³. More recently, Gartner analysts said that 85% of all outsourcing contracts signed since 2001 through year-end 2004 will be renegotiated within three years of signing because the original contracts did not serve the enterprise's long-term objectives (Gartner, 2004).⁴⁴

Robert DiGiovanni, partner at the law firm Shaw Pittman, recommends that companies pay close attention to the management structures that support the contract relationship. "There is often disconnects between expectations at the management level and what's actually delivered at the process level," he says. "You also need to make sure the parties share a common understanding regarding critical interactions at the operational level."

Other sage advice provided by Shaw Pittman (Shaw Pittman, 11/03/03)⁴⁵:

- Leverage the benefits of competition among the bidders for your outsourcing contract.
- Focus on the performance and cost of the IT functions and not necessarily on the IT platform or technology, but don't let the service provider lead you down a path of vendor lock-in.
- Don't sign a contract that the outsourcer places in front of you - have a neutral third party look at it to make sure it is fair to both sides. Above all, avoid exclusivity in the contract.

The legal implications of outsourcing will be discussed further in *Chapter VIII*, but with more (potential) lawyers in law school than in practice, it is in the best interests of each party to make contract management and legal policy a top priority when outsourcing.

5.7 – Summary

There is no business activity that does not involve risk (even the very act of not acting entails risk.). The bottom line is that a company must take risks in order to grow. In general, risks are difficult to control, particularly when a company grants access to internal resources to outside vendors. The risk is even greater when the outside vendor is outside the legal jurisdiction of the company.

Many of the risks surrounding outsourcing are in fact common project risks but become amplified when taken on by an external, offshore vendor. The primary purpose of this chapter was to provide a subset of the inherent risks surrounding outsourcing and various ways companies look to minimize such risk. The next chapter will take a step back from outsourcing to identify various frameworks that have been developed and are currently in development to help mitigate project risk in general.

Chapter VI – Aim for Quality, Not Quantity!

The Indian BPO industry, which previously relied on its cost effectiveness to attract customers, is now under an entirely different dictatorship. Quality is the new buzzword and is dominating business processes and services like never before. Ninety percent of ITES-BPO companies now have specialized quality departments that are responsible for ensuring accurate, reliable services to their customers. The spotlight in Indian centers is now focused on ensuring standards of quality that are at par with, if not superior to their counterparts abroad. (Outsourcing2India)⁴⁶

6.1 – Introduction

Initially, outsourcing was looked at primarily as a cost saver, confined to non-core and non-critical company competencies. Today, outsourcing has evolved into a complex model of core / non-core services being performed externally. As the outsourcing model becomes more complex managing product and service quality has become increasingly challenging.

A quick glance at Value Based Management's website, www.valuebased-management.net, identifies that there are an inexhaustible number of management models, 357, give or take a few!⁴⁷ As a result, management is faced with the daunting challenge of finding which model, or models, will work best for their organization. Depending on the organization, some models will be more effective than others and often times it is a combination of models that works best (some models are even designed for integration). This chapter will introduce the benefits of incorporating various management methodologies and industry standards in order to maximize the quality of products and services and gain competitive advantage across industries.

6.2 – Commitment to Quality

As outsourcing begins to offer continuous improvements on critical business processes, vendors and clients look to incorporate quality methodologies and management techniques into day-to-day operations. Such

methodologies help to reinforce the importance of customer satisfaction and product quality in lowering cost and improving business focus. A study, conducted by the Earth Institute at Columbia University, reported that the quality of outsourced business processes had increased between 5 to 25 percent for the 45 companies it surveyed. This was in addition to the 5 to 50 percent cost savings 67 percent of the companies received.⁴⁸ Although these are just initial survey results and are quite fallible, the survey does indicate the importance quality plays in outsourcing firms.

Scanning the mission statements of various offshore companies identifies that many believe in a strong commitment to quality and leverage a track record of quality in the race to become 'best in class' service providers. For example:

@ Wipro Technologies:

A number of 'firsts' mark our quality leadership. More importantly for us, the maturity of our quality processes translates into lower total cost of ownership for our customers. The maturity of our quality processes takes offshore engagements to another level, ensuring that our customers benefit from:⁴⁹

- 30-40% lower Total Cost of Ownership
- 20-30% higher productivity
- On-time deliveries (93% projects completed on time)
- Lower field defect rates (67% lower than industry average)

@ MachroTech:

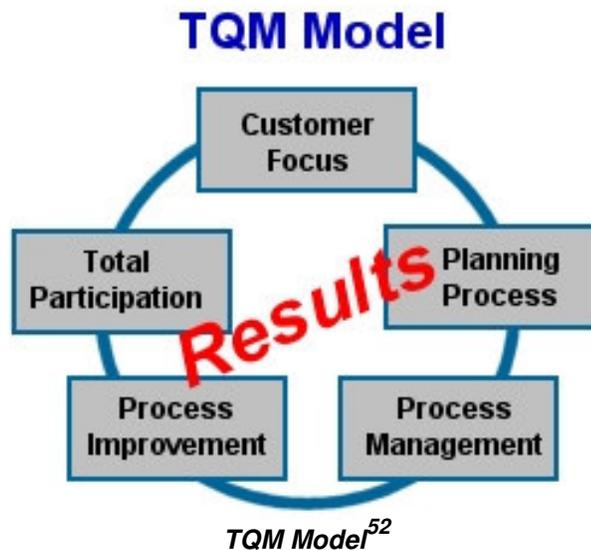
Quality is no longer an oral guarantee given over a handshake, but a well defined set of criteria applied to the entire development process. At MachroTech, we guarantee the utmost level of quality in our operations by rigorously applying the following methodologies:⁵⁰

- Implementing the ETVX model developed by IBM Corporation
- Holding periodic Quality Training programs to enhance the performance of all employees
- Organizing International training exchange between our development centers in U.S. and India
- Inspecting the quality of the applications at all levels of development
- Implementing Extensive Testing methodologies by our in-house Testing team
- Developing effective internal testing mechanisms

6.3 – Quality Management

Total Quality Management

One of the first revolutions to quality management was TQM, devised by W. Edwards Deming. TQM, short for Total Quality Management, is a philosophy that focuses on the needs of the customer, both internal and external. TQM is a comprehensive and structured approach to organizational management that seeks to improve the quality of products and services through ongoing refinements in response to continuous feedback.⁵¹ The model aims to realign an organization from problem detection to problem prevention while statistical monitoring process improvement. TQM (shown below) starts with understanding the customer's needs before planning and implementing a process. In the end, participation from both management and workers helps create an environment where people and not a product or service are the central focus.



Six-Sigma

There have been a number of variations on TQM adopted across industries, including EFQM Model, the Deming Cycle and Goal Questions Model (all of which can be found in *Appendix A*). One such methodology is Six-Sigma,

which has been effectively deployed in offshore vendor organizations such as Patni Computer Systems Ltd. and Keane Inc. in efforts to improve quality and streamline business processes. Six-Sigma is a disciplined, data-driven approach for eliminating defects in system processes. The primary goal of Six Sigma is to improve customer satisfaction by reducing and eliminating defects. Six-Sigma emphasizes continuous improvement based on system analysis and control features. The key steps in the Six Sigma improvement framework are:

Define → Measure → Analyze → Improve → Control

Larsen & Toubro Infotech Limited, which offers comprehensive, end-to-end software solutions and services, implements Six-Sigma to improve its IT infrastructure services. L&T Infotech's objective was clear:⁵³

- Achieve the highest level of quality standards in the organization,
- Provide defect free products and services to the customers and
- Usher in a cultural change in the organization that is driven by data to develop a Benchmark of our product and process capability for comparison with the 'best in class'.

6.4 – Quality Standards

Advanced quality models, such as Six-Sigma can work wonders for an organization, however, one of the problems in implementing these models is the cost of training. Six-Sigma training can run upwards in \$1 million for the first 18 months.⁵⁴ For organizations that cannot afford the advanced benefits of a TQM, there are a variety of standard frameworks and certifications that provide generic guidelines for an organization looking to make quality an integral part of its IT organization.

The process improvement ideology states that at the process level, product quality depends on process quality and can be represented as follows:

SPI → Quality (Process) → Quality (Product)

Various SPI frameworks used across outsourcing vendors include CMM, ISO 9000, BS 15000 and SPICE, which aim to increase the quality of products

not by greater investment in technological resources, but better management and control over existing processes. This section will discuss two frameworks, ISO 9000 for process quality and BS 15000 for service quality.

ISO – Process Quality

The International Organization for Standardization is the source of ISO 9000, ISO 14000 and more than 14,000 International Standards for business, government and society. ISO (meaning same in Greek, as opposed to IOS) maintains a network of national standards institutes from 148 countries working in partnership with international organizations, governments, industries, business and consumer representatives.

One particular implementation of ISO is ISO 9000. ISO 9000 is a set of standards for quality management systems that is accepted around the globe. Over 100 countries have adopted ISO 9000 as a national standard in an effort to assure that the quality of IT products meets the expectations of the customer. ISO 9000 is not just a standard for software processes; it can be used to certify an organization's technical capabilities. ISO 9000 emphasizes clear process documentation using text and illustrations to ensure the consistency and comprehensibility of a system. The ISO 9000 family is primarily concerned with "quality management" and requires any process to:⁵⁵

- Meet customer's quality requirements
- Adhere to regulatory requirements
- Enhance customer satisfaction
- Aim to achieve continual improvement of its performance in pursuit of these objectives.

Research performed at Carnegie Mellon's SEI reported in a 1999 study of Indian software firms identifies how ISO certification enhances the ability of firms to grow and with minimal increases in cost. The research performed by Ashish Arora and Jai Asundi emphasized that ISO certification is an important means of signaling to potential customers and does help in enabling a firm to provide more

sophisticated and higher value-added services to get such contracts, and hence earn higher price per unit of effort.⁵⁶

BS 15000 – Service Quality

Another generic framework, based heavily upon the ITIL (IT Infrastructure Library) framework, is BS 15000. BS 15000 is the world's first standard for IT service management and specifies a set of interrelated management processes. BS 15000 is process based and encompasses the best practices for IT service management. It aims to provide management with a framework for IT service delivery enabling, organization planning, management, delivery, monitoring, reporting, reviewing and improving IT services management in increasing efforts to alignment IT with the business. BS 15000 builds on the PDCA cycle:⁵⁷

- Plan: Design or revise business process and activities to improve results
- Do: Implement the plan, including defined measures of performance
- Check: Assess the measurement data and report the results to decision makers
- Act: Decide on further changes needed to improve the process.

BS 15000 standards are generic and non-prescriptive in assisting IT firms to define and standardize their service processes. BS15000 is a formal specification and defines mandatory requirements for an organization to deliver managed services of an acceptable quality for its customers. Consequently, BS 15000 certification is sought by organizations throughout the service industry, onshore and offshore. Wipro Technologies, the global technology services division of Wipro Ltd, was awarded the BS 15000 certification by the IT Service Management Forum in March 2004. The Vice President of Technology Infrastructure at Wipro Technologies emphasizes the importance of the certificate through the following statement.⁵⁸

“This certification will give our global customers and partners enhanced trust and confidence in our ability to address their IT Infrastructure management and application support needs while maintaining high standards of quality and cost effectiveness.”

6.5 – Quality Awards

The definition of quality has evolved over time, thanks, in part, to organizations that research the role quality plays in IT. In addition to researching these benefits and detriments of quality, these organizations award the companies and / or individuals that exhibit exemplary service in the area of quality. These awards look to identify those companies or individuals that place quality of service and quality of product as a top priority in technology.

Institute of Quality Assurance (IQA)⁵⁹

The Institute of Quality Assurance was founded in 1919 and addresses the entire life cycle of product development, service and delivery. The idea focuses on leadership, customer satisfaction, supply chain management, resource management, workplace conditions, design, production and delivery and the quality of the product or service. Additionally, and most importantly, managing for quality is about performance improvement through the use of quality tools and techniques. IQA has produced the following eight principles for quality management:⁶⁰

- Customer - focused organization - organizations depend on their customers and therefore should understand current and future customer needs, meet customer requirements and strive to exceed customer expectations
- Leadership - leaders establish unity of purpose, direction and the internal environment of the organization. They create the environment in which people can become fully involved in achieving the organization's objectives
- Involvement of people - people at all levels are the essence of an organization and their full involvement enables their abilities to be used for the organization's benefit
- Process approach - a desired result is achieved more efficiently when related resources and activities are managed as a process
- System approach to management - identifying, understanding and managing a system of interrelated processes for a given objective contributes to the effectiveness and efficiency of the organization
- Continual improvement - continual improvement is a permanent objective of an organization

- Factual approach to decision making - effective decisions are based on the logical and intuitive analysis of data and information
- Mutually beneficial supplier relationships - mutually beneficial relationships between the organization and its suppliers enhance the ability of both organizations to create value

Jim Speirs, president and chairman of IQA states, "Quality is a way of working, which not only improves businesses but also the way people work and live. The IQA National Quality Award aims to raise business awareness of its importance and encourage, promote and recognize best practice".⁶¹ IQA calls upon 'quality' professionals and businesses to send in entries for the IQA National Quality Awards.

Malcolm Baldrige National Quality Award

The Malcolm Baldrige National Quality Award was enacted into law in 1987 in order to encourage U.S. industries to pursue competitive improvements. Similar to IQA, the Baldrige award looks for companies (vendor or host organizations) that seek to improve the quality of its product and services above and beyond other companies in its industry. It is administered by the National Institute of Standards and Technology (NIST) that in the Commerce Department.

The award winners are required to share (non-proprietary) information on successful performance strategies and actions, and benefits derived. Eligibility allows for two awards in each of three categories:

- Manufacturing companies
- Service companies
- Small businesses
- Education
- Health Care

All participants that go through Phase I and II receive a feedback report. The report states the strengths and areas that need improvement for all categories/item in the Baldrige criteria.

1999 Baldrige Award Criteria

1999 CATEGORIES/ITEMS	POINT VALUE
1.0 Leadership	125
1.1 Organizational Leadership	85
1.2 Public Responsibility and Citizenship	40
2.0 Strategic Planning	85
2.1 Strategy Development	40
2.2 Strategy Deployment	45
3.0 Customer and Market Focus	85
3.1 Customer and Market Knowledge	40
3.2 Customer Satisfaction and Relationships	45
4.0 Information and Analysis	85
4.1 Measurement of Organizational Performance	40
4.2 Analysis of Organizational Performance	45
5.0 Human Resource Focus	85
5.1 Work Systems	35
5.2 Employee Education, Training, and Development	25
5.3 Employee Well Being and Satisfaction	25
6.0 Process Management	85
6.1 Product and Service Processes	55
6.2 Support Processes	15
6.3 Supplier and Partnering Processes	15
7.0 Business Results	450
7.1 Customer Focused Results	115
7.2 Financial and Market Results	115
7.3 Human Resource Results	80
7.4 Supplier and Partner Results	25
7.5 Organizational Effectiveness Results	115
TOTAL POINTS	1000

According to a report by the Conference Board, a business membership organization, "A majority of large U.S. firms have used the criteria of the Malcolm Baldrige National Quality Award for self-improvement, and the evidence suggests a long-term link between use of the Baldrige criteria and improved business performance."⁶² However, the Baldrige Award is more than just an award; it is an ideology every company should strive for, inside or outside the U.S. For many organizations, following the Baldrige criteria for quality may result in more effective employee relations, greater productivity, increased customer satisfaction, larger market share, and improved profitability.

The 2004 Baldrige Award recipients were selected from among 60 applicants measuring the points listed above and including over 1,000 hours of review and an on-site visit by teams of examiners to clarify questions and verify information in the applications. At the award ceremony, Commerce Secretary

Don Evans saluted these organizations and their workers for their contributions to America's economic and competitive strength. He went on to state that these organizations best embody the Baldrige themes of ethical leadership, sustainability, innovation and continuous improvement.⁶³

6.6 – Summary

Oftentimes companies look for a silver bullet, or one process that will dramatically improve quality and service while at the same time increasing profits. Sometimes it is a management framework or philosophy, other times the focus is on process development. This chapter has identified a few of the major models service organizations implement to increase the efficiency, quality and integrity its products and services. In addition to implementing various improvement models internally, there exist national (Baldrige) and global consortiums (IQA) that strive to raise awareness of the importance quality plays across industries.

Chapter VII – Assessment & Capability

7.1 – Introduction

Chapter VI introduced management methodologies and industry standards aimed at measuring and improving quality of IT functions throughout an organization. Although process management and quality assurance are important for vendor companies, it can never eclipse the importance of how these external companies are viewed in terms of IT service and alignment. Simply because a vendor employs a list of frameworks and management techniques aimed at increasing the quality and productivity of its services, does not indicate that the vendor will align well with an organization. This chapter will discuss the importance of vendor assessment and capability models. In particular, this chapter will look at two widely employed models, CMM, and eSCM.

7.2 – Vendor Assessment

All stages of an outsourcing initiative are critical, however, vendor evaluation and assessment may be considered the most important. Vendor assessment is critical since the decision will ultimately set the tone for an outsourcing initiative and a poor assessment could have detrimental impacts. At the procurement stage a company should have already prepared a list of criteria the organization plans to outsource (largely on areas discussed in *Chapter IV*). The next step is to assess the vendor. Ideally, vendor assessment consists of the following list of processes:

- Searching for a vendor, whereby standards for vendor evaluation have been set.
- Detailed analysis of a particular vendor through evaluation of a vendor's qualification and capabilities.
- Interacting with vendor clients, including identifying any problem areas and detailed analysis of vendor processes & infrastructure

- Price comparison

However, due to the sensitivity of offshore outsourcing, additional levels of analysis are encouraged. Service provider MachroTech insists companies perform various methods, as indicated in the chart below, before settling on a vendor.⁶⁴

Evaluate vendor country	<ul style="list-style-type: none"> • Scrutinize the political and economic climate of the vendor country. • Understand the political inclination, economic policies, and IT policy. • Look at the future of offshore outsourcing in the nation where the offshore unit is located.
Know the vendor	<ul style="list-style-type: none"> • Understand the goals, objectives, mission and vision of the offshore vendor. • It is always a good idea to be convinced about the leadership. • Synergy in goals is an absolute must for sustainable offshore relationship.
SWOT analysis	<ul style="list-style-type: none"> • Conduct a detailed analysis of personnel skill sets, technology infrastructure, privacy protection, quality control processes, confidentiality measures and other systems as per your requirements. • Visit the potential vendor, and verify the credentials.
Financial analysis	<ul style="list-style-type: none"> • Financial analysis should be done based on the total costs to you vis-à-vis the expected goals. • Calculate financial. risk depending upon the back up strategy adopted by the offshore vendor

VENDOR EVALUATION PROCESS

7.3 – Capability Models

Although vendor selection and assessment can be considered number one in determining the success of an outsourcing initiative, proper vendor and company alignment is also critical.

Industry models such as ISO 9001 and BS 15000 certify that a vendor is adhering to generally accepted service and product standards. However these standards fail to incorporate all aspects of an organization, including alignment, maturity and capability. This section will look at the evolution of the Capability Maturity Model to its most advanced model eSourcing Capability Model and how they aim to provide organizations with value based measurements of an IT vendor's capabilities.

Capability Maturity Model (CMM)

One of the first models designed to assess capability and maturity of an organization was the Capability Maturity Model. CMM was a direct response to the Air Force's frustration with its software buying process in the 1980s. The Air Force and other Department of Defense divisions began sending increasing amounts of development work outside the department but had trouble determining which companies to choose. Carnegie Mellon University in Pittsburgh won a bid to create an organization to improve the vendor vetting process. Thus, the Software Engineering Institute was founded (SEI). One of the main goals of CMM was to assist organizations in providing the infrastructure for a disciplined and mature software process. The strategy aims to improve the management of the software process, in the belief that this will lead to improvements in techniques.

Stage	Maturity Level	Process Area
1	Initial	Processes are ad-hoc, chaotic, or actually few processes are defined
2	Repeatable	Basic processes are established and there is a level of discipline to stick to these processes
3	Defined level	All processes are defined, documented, standardized and integrated into each other
4	Managed level	Processes are measured by collecting detailed data on the processes and their quality
5	Optimizing level	Continuous process improvement is adopted and in place by quantitative feedback and from piloting new ideas and technologies

5 Maturity Levels of CMM⁶⁵

An organization can assess maturity using a series of questionnaires developed by CMU's SEI (Software Engineering Institute). The software maturity model emphasizes measurement, training and retraining of software personnel, and quality control of the software process. But it also increases productivity, as a software development organization moves up to higher level of maturity. A General Dynamics' study of 20 CMM Level 5 operations over the past 10 years found that customers using the processes experienced a 35 percent increase in productivity, a 19 percent decrease in time to market and a 39 percent decrease in defects delivered in the first release.⁶⁶ Additionally, research performed by Gartner correlated fewer software defects with higher CMM levels.

CMM Objectives: BUG REDUCTION

CMM level	Average defects per function point	Percentage improvement (from previous level)	Cost savings per 100 function points, at U.S. labor rates	Cost savings per 100 function points, at offshore labor rates
1	0.750	—	—	—
2	0.620	17.33	\$14,560	\$6,240
3	0.475	23.34	\$16,240	\$6,960
4	0.228	52.00	\$27,664	\$11,856
5	0.100	56.00	\$14,336	\$6,144

Source: Gartner Inc. and the Software Engineering Institute⁶⁷

Consequently CMM has steadily gained acceptance throughout the IT industry. From its origins in the defense industry, the framework has spread rapidly and has become the de facto certification for outsourcing software development in healthcare, financial and automotive industries. Last chapter identified Wipro Technology's 2004 certification of BS 15000 but prior to this it was the first software services organization in the world to be assessed at SEI CMM Level 5 in 1999. As part of the CMM level 5-initiative, Wipro had facilitated continuous improvement techniques in software quality and productivity through defect analysis, cause identification and defect prevention and included

technologies that incorporated tools, methods and processes. On a side note, Wipro became the first PCMM and CMMi Level 5 software services company.⁶⁸

CMM Critics

A major problem with being “CMM Level X” is there is no guarantee that software projects of service levels will be successful. CMM is not a process but a model and can only show an organization how to approach technology service and project management. Organizations and outsource providers should understand that CMM will not create an effective technology organization and implementing the model properly does not guarantee success. Even when implemented properly there are various pitfalls due to inefficiency in the existing CMM model. One such inefficiency occurs when a company tries to mimic the CMM model exactly. It is often the case that certain areas of a company are more mature than others, whether due to advanced communication or advanced technology. Companies should embrace these areas and use them build up on maturity in other areas.

Another criticism surrounding CMM is the emphasis it places on documentation. For CMM level assessment, companies are required to produce copious amounts of policies and procedures as evidence of CMM adherence. However, there is no emphasis placed on identifying where and how such policies and procedures are implemented. And once assessed, the documents are rarely looked at again. This ends up being a waste of time and money and jeopardizes the credibility of the assessment.

Lastly, a major complaint among outsourcing startups is the duration it takes to move from one level to the next, which in some cases is years. Watts Humphrey, founder of the Software Process Program of SEI at Carnegie Mellon, originally believed that most organizations would move from level 1 to 5 in one or two years. However, for organizations that began their CMM-based SPI effort in 1992 or later, the median time to move from:⁶⁹

- Maturity level 1 to 2 is 22 months

- Maturity level 2 to 3 is 21 months
- Maturity level 3 to 4 is 25 months
- Maturity level 4 to 5 is 13 months

Enter eSourcing Capability Model (eSCM)

CMM was the first of the capability models and therefore was inevitably one of the most flawed. Since its inception in the early 90's CMM has taken on a life of its own, spinning off many different kinds of models including, Software CMM, Integrated CMM, People CMM and Service CMM (see *Appendix C for additional CMM models*).

One of the major criticisms of CMM is the fact that CMM comes from the Software Engineering Institute (SEI) sector of Carnegie Mellon University (CMU). The SEI CMM is government funded and because of this cannot be a certification organization. As a result, the certification process for CMM has been vastly abused. To remedy the problem many of the original developers of CMM left SEI and returned to other areas within CMU. Their effort produced a new capability model that includes a full-scale certification process named eSCM. eSCM looks to identify a core set of issues surrounding vendor / client relationships including:⁷⁰

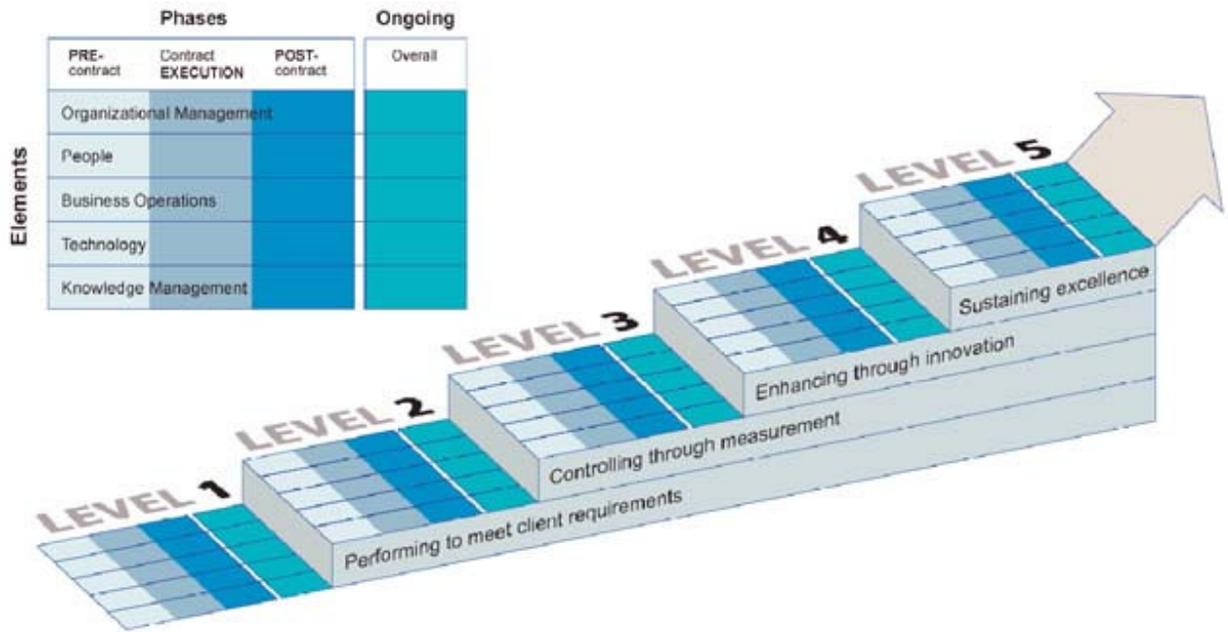
- | | |
|---|--|
| ○ Developing and sustaining stakeholder relationships | ○ Assessing and managing IT related threats |
| ○ Building and maintaining a competent workforce | ○ Remaining competitive through innovation and improvement |
| ○ Defining and delivering quality service | ○ Managing transitions of resources and services. |

The eSCM addresses the critical issues related to IT-enabled sourcing (eSourcing). Like other CMM models, eSCM is used as a means for certification at the “capability level” as well as a means for organizational improvement. Clients use the eSCM as a means to compare service providers during their selection process.⁷¹ Although most quality models focus only on delivery capabilities, in eSCM there are also critical issues associated with initiation and

completion of the contract. eSCM has been designed to complement existing quality models so that service providers can capitalize on their previous improvement efforts.

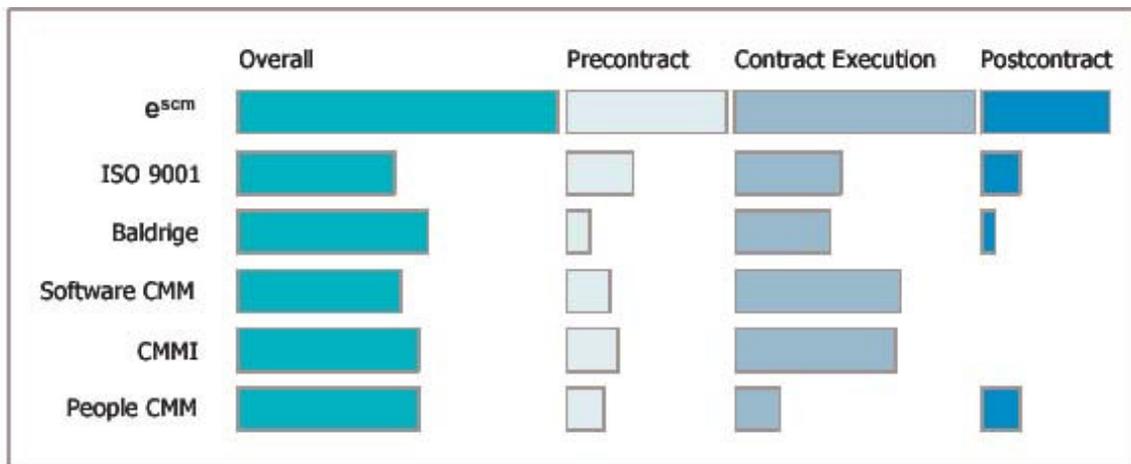
The eSCM model uses 93 criteria, called "practices," to assess an outsourcer's capabilities in five areas: organizational management, people, business operations, technology and knowledge management. These practices are distributed across various phases of outsourcing. Independent evaluators trained in the model by Carnegie Mellon confer a rating from Level 1 through Level 5 following a comprehensive review.⁷² Additionally, eSCM contains a set of practices that address the entire sourcing process and each practice is associated with one of the five Capability Levels. These practices evaluate quality concerns specific to outsourcing that are not covered by existing quality models, including:

- Contract negotiation, transition of resources and reverse transition of resources at contract completion.
- Methods for buyers of information-technology enabled services to appraise capabilities in the above aspects of outsourcing—as well as guidance for outsourcers to improve.
- A level of structure that takes into account the inevitable change in business needs over the life of an arrangement.



Overview of eSCM Phases, Elements, and Capability Levels⁷³

Unlike other models, eSCM provides coverage across the length of an outsourcing contract. The diagram below compares eSCM to various other management and capability models across the life of a contract.



Comparative Model Coverage⁷⁴

Accenture Consulting, which maintains a partnership with SEI, emphasizes the importance eSCM will play in outsourcing. Hugh Kirby, partner at BPO Accenture claims, “The impact of the eSourcing Capability Model on the

outsourcing industry will be unprecedented. For the first time, companies will have a consistent set of standards for comparing providers and assessing capabilities. With both the process and outcome articulated for every step in the outsourcing life-cycle, this model represents a win-win governance solution for outsourcing providers.”

However, the model is yet to be proven in today’ outsourcing economy and due to its relatively recent introduction only two organizations have been evaluated for eSCM certification (as of January 2004). The first certificate was awarded by the IT Services Qualification Board (ITsqc) on October 31, 2003, to LG CNS, LG*Net Network Service Center, Seoul, Republic of Korea. The second certificate was awarded on January 19, 2004 to LG CNS Infrastructure Service Center, Incheon and Seoul, Republic of Korea.⁷⁵ Only the future will tell if eSCM will be as successfully as its predecessor CMM or as standardized as ISO.

7.4 – Summary

As mentioned in the summary of *Chapter VI* there is no silver bullet to technology, neither a magic number, nor elixir to optimize the service and value IT can provide for an organization. Many look to accomplish it through outsourcing but instead fail because an organization does not perform the due diligence required to take on an outsourcing initiative.

This chapter discussed the steps needed to fully assess the capability of an offshore vendor. In addition, two capability models were introduced, CMM and eSCM. Capability Models are used by many organizations to identify best practices useful in helping to create increased maturity, efficiency and reliability of IT processes and services. Each provides benefits for both outsourcing vendors and outsourcing organizations. In fact, the CMM has become so popular that it has in fact spun of a number of different models (available for your leisure in the *Appendix C*). The next chapter will conclude *Part Two*, with what happens when the unavoidable happens... Failure.

Chapter VIII – When all else fails, take ‘em to court.

"A multitude of laws in a country is like a great number of physicians, a sign of weakness and malady."
(Francois Marie Arouet Voltaire, 1694-1778)⁷⁶

8.1 – Introduction

The main objective of *Part Two* was to identify the inherent risks of outsourcing, while providing various methods and frameworks used throughout the industry aimed at curbing project risk and outsourcing risk. As a conclusion to *Part Two*, we will look at what happens when all else fails to discuss the legal implications of an outsourcing contract. Beginning with the various pricing models, this chapter will look to incorporate what is legally bound by contract, state, or by ethics. In essence, this chapter will take us back to *Chapter V*, to complete unfinished business in an effort to clear up some of the pending risks (from a legal standpoint) surrounding offshore outsourcing.

8.2 – Bound... But by what?

Outsourcing is required to comply with all federal, state, and local laws and regulations as well as an organization's own policies and procedures. Although it is easy to summarize the restrictions placed on outsourcing in once sentence, it is far more difficult defining such in terms of a contract and without proper contract management, an outsourcing initiative can turn into an ugly legal battle. Although legal action should only be taken as a last resort, it is important for an organization to be aware of the various governmental, environmental and organizational liabilities that exist.

Before any outsourcing initiative can begin, contracts are generally drawn up and agreed upon by each side. The main function of the contract is to identify a specific pricing structure and service level agreement (SLA), both of which are critical to any outsourcing initiative. In addition to the SLA, a contract will identify a governing law for the two parties in addition to establishing what regulatory

laws and tax implications apply. In fact, identifying the tax implications of an outsourcing project at an early stage is crucial. Organizations looking to outsource should consider whether their existing relationships comply with, or create any exposure under, the corporate income tax laws of each state.

For example: from the U.S. perspective, a key tax issue is whether a U.S. Financial Institute is required to withhold any U.S. tax upon forwarding payments to Indian service providers. In general, where two countries have signed a tax treaty, the resident of one country is obligated to withhold any tax on payments of royalties, dividends or interest to a resident of the other country. The U.S. and India maintain such a tax treaty where royalties are included in any service fees.⁷⁷

8.3 – The Contract: Pricing Models

There is a variety of pricing models companies can adopt when looking to outsource including fixed-price, time & materials, value-based, risk-reward and on demand models. The following chart identifies the various types of pricing mechanisms being deployed across industries.

Name	Description	Best Used	Cons
Fixed-Price	Value-based pricing is a method of pricing products in which companies first try to determine how much the products are worth to their customers.	Software products	Vendors overestimate prices to minimize risk.
On Demand	As demand rises, a company will pay more for immediate attention and as demand falls, they will pay less for the reduced capacity.	Call centers; maintenance; storage usage	Pay as you go lacks an overall business strategy.
Time & Materials	Cost is determined by the amount of time and resources expended.	Project initiation where specs are not fully defined.	Scope Creep; No defined end goal.
Transactional	Clients agree to pay offshore outsourcing vendors a flat fee per unit of work.	Help desk, and service based	Similar to fixed-price, Vendors overestimate prices to minimize risk.

Risk Reward	Vendors are rewarded for exception performance.	This method should be applied across all contracts.	Loss of focus; terms of reward are unclear.
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Price Model Chart

Oftentimes one model is not preferred over any other and a company will incorporate a variety of pricing models into their SLA. The Clopay Corporation, an Ohio-based building products manufacturer, adopts a combination-pricing scheme, where it outsources Oracle application management to Sierra Atlantic through a fixed-price plan with “rollover” hours, and utilizes time & materials pricing for additional work.⁷⁸ However, all pricing schemes, combo schemes included, should be specifically stated within the contract.

8.4 – The Contract: Service Level Agreements

"Incorrect or nonexistent SLAs frequently lead to poor customer satisfaction, which results in a misaligned relationship [with the outsourcing provider]."⁷⁹

Determining the price structure for an outsourcing contract is one crucial aspect of an SLA, determining what goes into an SLA is another. A service level agreement (SLA) is an essential part of any outsourcing project. It is a contract that defines the technical support or business parameters that an application service provider or other IT outsourcing firm will provide its clients. The agreement typically spells out measures for performance and consequences for failure.⁸⁰

A well-defined and constructed SLA will aptly set expectations for both sides of an outsourcing relationship while providing targets for accurately measuring performance to those objectives. There are various steps to establishing an SLA between parties. The first involves negotiation whereby both parties will agree to the terms of service. Once established and agreed upon, the various methods of payment, as discussed in the previous chapter, are also identified. Of the important aspects of any SLA are the methods by which a

company will evaluate the service of a vendor. In other words, did the vendor perform the service in line with the agreement? When properly chosen and implemented, the SLA metrics:⁸¹

- Measure the right performance characteristics to ensure that the client is receiving its required level of service and the service provider is achieving an acceptable level of profitability
- Can be easily collected with an appropriate level of detail but without costly overhead, and
- Tie all commitments to reasonable, attainable performance levels so that "good" service can be easily differentiated from "bad" service, and giving the service provider a fair opportunity to satisfy its client.

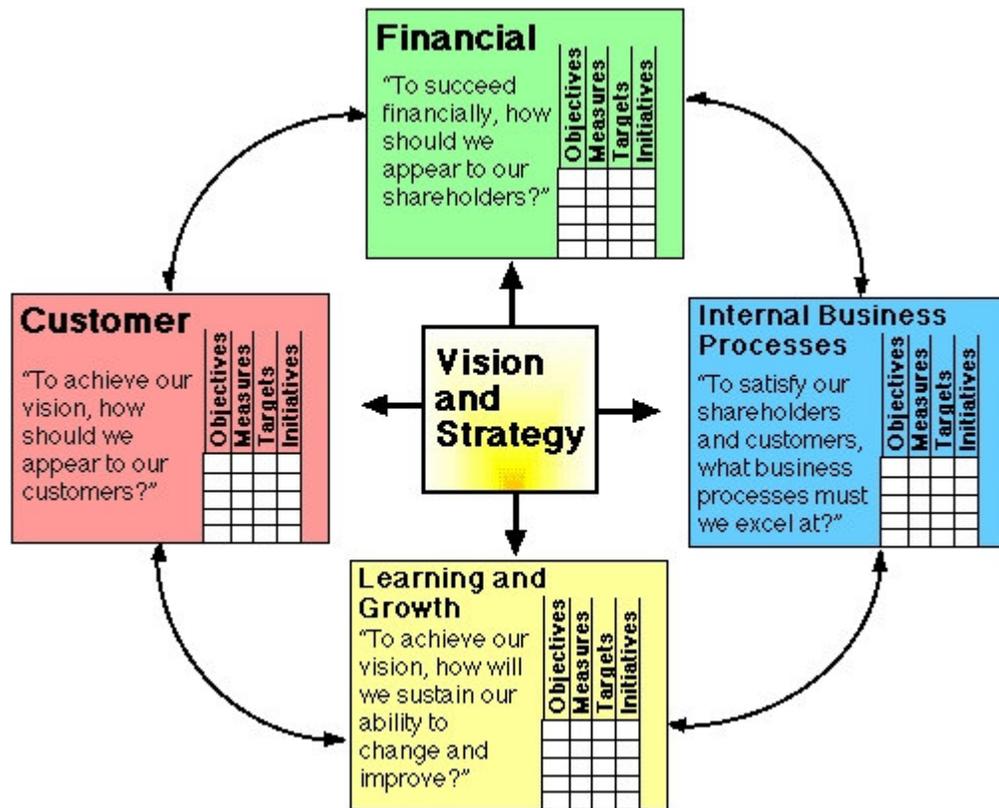
Balanced Scorecard

In bowling, earning three strikes is a good thing. But in baseball, a strike has a very different meaning. It all depends on the scorecard you're using. (James R. Borck, Infoworld)⁸²

While an SLA is critical in determining the stipulations of a contract, continual vendor measurement and reassessment is also critical. Measurement throughout the lifecycle of a contract assures that a service or product meets levels agreed upon in a contract.

A Balanced Scorecard (BSC) provides a scientific method to measure performance levels in outsourcing engagements in order to improve service delivery, achieve business goals and set new goals. Created in the early 1990's, by Drs Robert Kaplan and David Norton at the Harvard Business School, BSC provides feedback around both the internal business processes and external outcomes in order to continuously improve strategic performance and results.⁸³

BSC can be applied to any long-term engagement where it is essential to quantify client expectations and measure performance.



*Balanced Scorecard*⁸⁴

However, the effectiveness of a Balanced Scorecard depends on the focus placed on it. As shown in the diagram above, BSC emphasizes four areas including learning and growth, business process, customer perspective and financial perspective. Each requires its own metrics to collect data for later analysis. Kaplan and Norton describe the innovation of the balanced scorecard as follows:

"The balanced scorecard retains traditional financial measures. But financial measures tell the story of past events, an adequate story for industrial age companies for which investments in long-term capabilities and customer relationships were not critical for success. These financial measures are inadequate, however, for guiding and evaluating the journey that information age companies must make to create future value through investment in customers, suppliers, employees, processes, technology, and innovation."⁸⁵

Good Enough...

One of the many quality models left out of *Chapter VI* is the Good Enough Quality (GEQ) or Good Enough Software. GEQ is a management model that has largely been accepted in the service field and is in fact a generally accepted model. What is GEQ? To claim that any given thing is Good Enough is to agree with all of the following propositions:⁸⁶

- It has sufficient benefits.
- It has no critical problems.
- The benefits sufficiently outweigh the problems.
- In the present situation, and all things considered, further improvement would be more harmful than helpful.

Good Enough model has nothing to do with low quality and is more a model on rational choice over compulsive behavior, and is often a model adopted at the service level. However, although adopting a GEQ mentality may meet the minimal terms of a contract, there are often various 'unwritten laws' both sides of a contract must abide.

8.5 – The Legal Quagmire

There are two types of people you don't want to get sued by, the first are the extremely rich, because even if you are right you will lose and those that are extremely poor, who have nothing to lose.

As identified in the last section, customers and vendors are responsible for adhering to both the pricing and service levels of a contract. However there are various unwritten rules of a contract, including government legislation, employee rights and intellectual property. Although such terms should be included in a contract, they are often times applicable even if they are not.

Global Sourcing Legislations

"Global sourcing" legislation is a concept which will be discussed further in the next chapter, but in essence it is legislation aimed at curbing the transfer of jobs overseas. Although a majority of the bills affect government contracts, other

bills look to increase penalties or quotas via taxation on companies contracting high percentages of work offshore. A contract is not legal if any of the stipulations within are found to be illegal. This means that a contract is not an entity on itself, but must be bound to both the laws of a customer and vendor as well as any international laws.

Employee Responsibility

For a company looking to outsource, there are many legal advantages for a company to benefit from. Although everything should be stipulated clearly in the contract, a company outsourcing is largely not responsible for the employee benefits of a service provider. This includes worker's compensation, sick leave, and vacation time. Such costs are usually accounted for under the pricing model, but the vendor remains legally bound to pay them on behalf of its own employees and any legal action will be between the service provider and its employees.

At the minimum, both the customer and vendor must abide by the local laws of a country when work is performed inside the company's borders. This includes employee protection rights.

Intellectual Property

In today's business world, privacy and confidentiality can be a company's most coveted competency. Considering this, an outsourcing contract must identify and ensure the privacy rights of the organization's employees and customers. Oftentimes, a service provider will have access to a myriad of confidential, private, or sensitive information about the organization's employees, and its clients, which is protected under both federal and state law. Therefore, the supplier must agree to keep any such information private and further agree to take such reasonable steps as necessary to prevent the disclosure of private information. The service provider should also assume liability for any claim made against the organization arising out of the disclosure of private information as a result of any action or inaction by the supplier.

As an added safeguard, the World Trade Organization enacted TRIPs in 1994. The agreement itself, titled Agreement on Trade-Related Aspects of Intellectual Property Rights, remains without doubt the most important international agreement on copyright, patents and other IP rules and is required to be followed by all companies operating under WTO regulations (such as India and China). However, TRIPs protections still must be enforced locally, and no countries prominent in software outsourcing have local laws covering theft of trade secrets. Michael Murphy, an attorney at Shaw Pittman, states “There are plenty of examples of piracy or misappropriation of design by Chinese firms [who sign into the agreement].” China regards intellectual property — especially that of foreigners — as communal property.⁸⁷

8.6 – Ethics: Clear and Simple

Although not required by law, many corporations should take accountability and appropriate action for unethical conduct, whether by company or vendor employees. For example, with regards to technology, members of the Institute of Electrical and Electronics Engineers (IEEE) recognize the importance of technology in affecting the quality of life throughout the world, and accept a personal obligation to the profession, its members and the communities they serve. Although not the Hippocratic Oath, members of IEEE look to adopt a set of 10 ethical principles as a foundation for its members. It can be found in the *Appendix D*.

Organizations should also take an added role in environmental ethics... One aspect of technology, often overlooked, is the hazards it oftentimes inflicts on the environment. Many people don't realize that computers, telecom equipment, and various other technology devices are constantly upgraded throughout the lifetime of a company. In developing nations where environmental regulations are more lax, a company may take liberties when disposing of such industrial waste. Although not necessarily the responsibility of the customer, organizations should make it a point to identify appropriate policies and

procedures to address such issues; if not for the environment, for the possible publicity of being associated with an environmentally unfriendly company.

8.7 – Summary

Although litigation is unavoidable in certain circumstances, it is often costly for both sides of a contract and should be used as a last resort. To assure that litigation is a last resort, companies must work side-by-side along with contract lawyers to draw-up and understand the terms of the contract. The main job of an SLA is to identify, up front, the pricing model and expectations of both the customer and vendor. In concluding *Part Two*, this chapter helped provide insight into the *quagmire* of legal issues resulting from outsourcing and how companies should address them.

Part Three – Bringing it all together

Part One and *Part Two* have introduced us to the fundamental concepts of outsourcing and have provided various methodologies and models to guide the implementation of such concepts (as things are not always as fundamental as they seem). *Part Three* will look to bring things full circle, providing the user with a summary of the topics discussed as well as how the topics are used at one particular organization, Citigroup. The conclusion of the paper will be the lessons learned where I will look to summarize what I have learned from writing this thesis.

Chapter IX – Full Circle

In the first half of 2003, the application development manager of a well-known company was frantic. Her staff was near mutiny. A day earlier, the CIO had called an "all hands" meeting and announced that he could save the company \$30 million during the next few years. How did he propose to do that? By moving application development offshore to outsourcing vendors. The application developers in the room were stunned. Immediately, they crowded into the office of their manager, all asking similar questions: What does this mean for me? Is my job safe? Will I become unemployed?⁸⁸

9.1 – Introduction

As mentioned [a few times], there is no silver bullet to increased revenues, reduced costs even greater service. In fact there are multiple paths companies can take to achieve these goals aside from outsourcing. Additionally, the extensive use of quality and capability methodologies among offshore vendors - such as Software Capability Maturity Model (CMM), eSCM and ISO 9000, are creating a higher degree of assurance regarding outsourcing. The last 40 or so pages were focused on educating the reader, not on whether offshore outsourcing is a good or bad decision, but to provide the reader with information on the many facets of outsourcing, good bad or neutral. In this chapter we will attempt to sum it all up...

9.2 – When a company is ready to outsource...

As defined way back in the early chapters, outsourcing occurs when an organization enters into a contract with another organization to operate, manage or maintain one or more of its business / technology processes. *Chapter V* identified the many risks surrounding outsourcing and the truth is that many organizations are simply not ready to take on outsourcing initiatives. According to META Group, most organizations fail to employ proper project management

techniques for legal protection to ensure that basic specifications are maintained. In other words, many organizations are spellbound by the potential cost savings.

Additionally, at Gartner's Outsourcing Summit in 2003, 39 percent of attendees at the session "Managing Workforce-Related Risk in Outsourcing" cited the loss of critical knowledge as the greatest source of workforce-related risk around outsourcing.⁸⁹ This shows that organizations are unclear of which processes to outsource and how outsourcing will affect the organization.

It is important for organizations to not trivialize the impact of offshore outsourcing on business strategies, the organization or the employees. A five step approach identified by Frank Usher of the Everest Group, aims to cover all aspects of the outsourcing process from deciding why to outsource to fully covering HR details. The proper preparation happens before the procurement cycle begins and includes the following steps:⁹⁰

1. Deciding why to outsource.
2. Commit the necessary internal resources to be successful
3. Draft the service level agreements.
4. Understand impact on the end users.
5. Make the hard decisions on scope (includes HR decisions).

9.3 – Why companies will not outsource core competencies...

Gartner research identifies that most companies retain such critical functions as application design, application integration, client-facing process management, enterprise architecture, information management and high-investment competency centers⁹¹. But why is this?

Chapter IV introduced what areas of information technology are being outsourced offshore. Traditionally, outsourcing has been centered around two things, reducing cost, and increased business focus. Increased business focus means focusing on an organization's core functions. A core function is one of a limited number of functions that provides strategic advantage to the company. It also evolves slowly through collective learning and information sharing.

Consequently, it cannot be quickly enhanced through additional large investments nor can it be easily transferred to others.⁹²

However, data management consultant William McKnight, of McKnight Associates Inc., says the offshoring trend will likely hit Business Intelligence (core competencies) in the next few years. However, outsourcing core competencies is the wrong approach as core competencies are what make an organization valuable to investors and clients. In the meantime, he recommends that companies take it slow and stick to an onshore / offshore model, in which the project managers, integrators and architects are homebodies so they can maintain some control over the projects, while only routine tasks are done offshore.

The diagram below identifies that for processes strategic to the company but not implemented well, the organization should look either to outsource or to refocus on internal process improvement.

Is this activity of strategic value to the organization?	YES	Outsource or Focus on Internal Improvement	Build/Invest
	NO	Outsource	Outsource or Focus on Internal Improvement
		NO	YES
Is this something that we perform well?			

To Outsource or Not To Outsource Matrix⁹³

9.4 – Outsourcing knows no boundaries...

The question now looms, “What boundaries exist for outsourcing?” Whatever boundaries exist, they are not border related, as companies span the globe in an effort to find equilibrium based on quality and cost. Just as importantly, outsourcing does not discriminate against industry. The fact that outsourcing applies across industries is more apparent than ever. Industries such

as automotive, medical and legal are looking to take advantage of reduced cost while looking to regain focus company and customer focus.

Organizations in the healthcare industry constantly face the challenge of providing effective healthcare while controlling costs and meeting privacy and security standards (similar to finance and government). As a result many healthcare organizations outsource many of the administrative operations including claims processing, member enrollment, and pre-authorization management. The legal field also maintains a stake in outsourcing. In early 2004, legal and financial publishing giant Thomson Corporation launched a pilot program to outsource many of its legal jobs to India. The company argues that Indian Lawyers, aside from being English-spoken, are also educated in the same common law system as in the United States.⁹⁴

Another area where companies look to outsource is product testing and quality control. For example Intertek Caleb Bret operates and manages many of the major laboratory outsourcing projects for Unilever, Citgo Oil, Dow Chemical, BP, Procter & Gamble, ExxonMobil, BASF, TotalFinaElf, Royal Dutch Shell, Irving Oil, the Swiss Government and others.⁹⁵ Such projects help move tedious tasks such as stress testing, design validation and quality control outside the company, in order to concentrate efforts on research and development. The outsourcing phenomenon has even invaded the \$25 billion video game industry. Del Rosario, Philippine representative to International Game Developers Association IGDA, points out that as offshore locations such as the Philippines become prime real estate for outsourced services, the country's video game development industry is also expected to take advantage.⁹⁶

9.5 – The outsourcing debate continues...

Six years from now, one quarter of traditional U.S. IT jobs will be done offshore, in countries like India and China, according to new predictions from researchers at one of the top industry analyst firms.⁹⁷ With statistics like these, from reputable sources, it is no wonder the outsourcing debate has found its way

into the 2004 U.S. presidential race between Senator John Kerry and President George W. Bush. President Bush has received much criticism surrounding his economic policies and has been blamed for the loss of U.S. jobs and a lethargic economic recovery. As a result the public's perception towards outsourcing shows that the government has failed to protect domestic employment by allowing large corporations to outsource offshore without suffering stiff penalties.

In early 2004, legislators took a giant step by introducing bills aimed directly at the heart of outsourcing. In January 2004 the Republican senator for the state of Ohio, George Voinovich, added a section into a \$3.3 billion government-spending bill, which bans private contractors from sending government contracts offshore.⁹⁸ Such legislation looks to bar states from contracting with companies planning to employ offshore workers. Additionally, lawmakers in the United States are pressured to review and change legislation relating to H-1B visas, which is used predominantly by the offshore IT service providers to bring resources into the United States, as well as L1 visas, used by all multinational corporations to bring their global resources to the United States. The focus is intended to tighten laws surrounding the use of these visas and make it harder for offshore IT service providers to use these visa categories to address their need for on-site resources for projects (Gartner).⁹⁹

Although the 2004 election has concluded, many of the Democratic viewpoints surrounding outsourcing still linger. In the Democratic campaign, front-runner, Sen. John Kerry proposed incentives for companies that keep jobs in the U.S. Kerry also proposed a permanent tax credit on research and development spending.¹⁰⁰ However, although John Kerry had denounced CEOs of U.S. companies outsourcing offshore like India and China as 'traitors', he acknowledged that the practice was here to stay but promised a level-playing field for the American worker.¹⁰¹ How trustworthy politicians' words are is debatable and with Kerry conceding on November 3rd, the U.S. technology worker will never see if Kerry's policies would bear fruit.

Some believe the public outcry against outsourcing is tenuous at best. Gartner Global Tech Industries Group Vice President, Craig Baty, feels most of the lashing out against outsourcing is unfounded as he quotes:

The idea that jobs will be lost through offshoring is the most emotional topic of outsourcing. But it is in fact an insignificant issue that will go away.¹⁰²

Additionally, he quotes surveys conducted by the U.S. government that offshore IT outsourcing currently accounts for less than 5 per cent of overall U.S. job losses. Finally, the Information Technology Association of America (ITAA) puts the immediate job loss figure at 2.8 per cent at the same time as many other jobs are being created..

9.6 – Outsourcing, Insourcing, Cosourcing and Smartsourcing...

Offshore outsourcing looks to find highly educated workers outside the U.S. to develop information technology applications for corporations at a much cheaper cost. There are two offshore varieties. One involves outsourcing, in which a company will hire a consulting firm to do the development work outside the country. The other type entails cosourcing, in which the data and systems reside in the U.S. but the company hires engineers outside the country who can log in and do the development work.¹⁰³

We have looked at the various aspects of outsourcing but what about the topic of insourcing. Insourcing recognizes that an organization's success has a direct relationship with its investment in the satisfaction of its primary stakeholders¹⁰⁴. Corporate viability is directly correlated to the company's investment in improving the skills and experience of its primary stakeholders, its employees. Therefore before deciding to outsource functions to offshore companies, organizations bring in experts to identify and work with existing employees to improve the effectiveness and efficiency of the in-house workforce. Thus development and service can be insourced (kept "inside" the organization). Insourcing has been instrumental in creating a viable supply of IT workers - in

fact, in creating a better quality workforce combining both technical and business skills.

Whether it's insourcing or outsourcing, corporations need to make the right decision. This idea, also known as 'smartsourcing' refers to making the prudent decision concerning information technology. Smartsourcing is yet another model around the challenges management has when it comes to outsourcing. The right solution is always the most simple. Rather than fit any one organization into any one model, maybe it is a combination of all the best aspects that truly fit the organization. Considering this, maybe the answer lies in a combination of outsourcing and insourcing, 'smartsourcing'. Analysts have dubbed smartsourcing as a whatever works approach; if an organization needs to outsource, then they should outsource, if they need to insource, they should insource.

When executives at AT&T Consumer's Services' long distance business unit were faced with the challenges of outsourcing in 2002, they decided to transform the business unit's sales and customer care operations. Through 'cosourcing' AT&T employees continued performing key processes while remaining employees of AT&T, but also worked side by side with service provider's own staff and management team in pursuit of the following initiatives:¹⁰⁵

- Develop and implement new customer relationship management strategies, such as customer insight and segmentation
- Integrate all customer interaction channels, including implementation of additional self-service capabilities
- Use process design and training solutions to improve workforce skills and efficiency

9.7 – Summary

Depending on the organization, companies will be faced with a variety of decisions based solely on the question of whether or not to outsource. The decisions, as discussed in this chapter, are based on a number of factors, including company preparedness, core competencies, future IT talent, public

perception and government regulation. This chapter concludes with the introduction of new topics cosourcing, insourcing, and smartsourcing, all of which are old concepts coined differently to identify the importance for an organization to focus on its core competencies. The next chapter will look at one of the world's largest financial organization, Citigroup, and how it handles its global outsourcing initiatives.

Chapter X – Case Study - Citigroup

10.1 – Introduction

Mumbai — Citigroup (NYSE: C) today announced its intention to purchase the outstanding publicly held shares of its Indian-based affiliate e-Serve International Limited. Citigroup currently owns 44.4 percent of the publicly traded shares of e-Serve. Citigroup expects to commit approximately Rs. 5.5 billion for this transaction. As e-Serve's largest shareholder and sole customer, Citigroup has concluded that obtaining full ownership of e-Serve and integrating it into its global operations will provide the company with increased operational flexibility to support its business and meet the needs of its customers.¹⁰⁶

The goal of this paper was to identify as many of the positive and negative aspects of outsourcing without falling victim to favoring any one standpoint. This chapter will look to incorporate many of the aspects identified and apply them to one of the largest financial institutions in the world, Citigroup. We will look at the benefits outsourcing can provide for such a large organization, as well as the inherent risks, including the various legal and management issues a large company like Citigroup is faced with.

10.2 – Citigroup Background

Established in 1998 when Citibank Merged with Travelers, Citigroup is the first financial services company in the U.S. to bring together banking, insurance, and investments, servicing individuals, corporations, institutions, and governments. It falls under a single letter symbol on the NYSE; C. Citigroup employs over 275,000 employees and manages 200 million customer accounts across six continents in more than 100 countries. Currently ranked 6 in the Fortune 500 list of companies, Citigroup maintains revenues in excess of \$100 billion. The list goes on... Citigroup maintains a tremendous distribution capacity, and an outstanding brand reputation in money management. Citigroup stands to be the business model for the rest of the financial industry.

10.3 – CitiTech (An Investment in Innovation)

Citigroup's technology organization maintains budgets in excess of \$1 billion. The main IT organization within Citigroup is named CitiTech, which handles the vast majority of technology initiatives throughout the organization. It is largely responsible for bringing Citigroup into the Information Age.

CitiTech offers an established focused process for the business and incorporates low cost development through its Citicorp Overseas Software Ltd. Initiatives. Like the Business, CitiTech is a global organization and maintains operations everywhere the Business does. IT at Citigroup is recognized throughout the IT community and maintains a standard of excellence in such areas as business continuity, real time trade capture, risk management, analytics applications and data security (to name just a few).

Whether onshore, or offshore, CitiTech looks to achieve a competitive advantage through the application of advanced technology and innovation across business segments.

10.4 – CitiTech's Aim For Quality

Citibank has, at its core, a strong focus on the delivery of quality in every contact with internal and external customers. A number of controls measure this across the organization but perhaps the best known and indeed the one most clearly visible to our customers is demonstrated by its commitment to the ISO standard. As discussed in *Chapter VI*, the ISO 9000 family of international quality management standards and guidelines has earned a global reputation as the basis for establishing quality management systems. Therefore, Citigroup feels that ISO standards provide the organization with a framework through which commitment to customer satisfaction, clearly defined processes and continuous improvement can be demonstrated to both internal and external customers. In summary, the standard is about establishing the needs and expectations of those Citigroup serves, setting goals for satisfying customer needs, devising a system

of processes to fulfill such goals, measuring performance and continually improving capability to satisfy the needs of all interested parties.

ISO 9000 Registration Details

Organization: Citigroup® Global Transaction Services Europe, Dublin Service Centre
First registered: 1994
Certificate Number: FS 29549
Current Standard: ISO 9001:2000 (achieved registration October 2001)
Scope: (recommended scope pending re-issue of BSI certificate)

Global Transaction Services Europe Operations in Dublin and London.

Dublin's European Operations include: Funds Transfer Processing, File and Liquidity Processing, Customer Service, Investigations, Continuous Linked Settlements, Electronic Banking Technical Support, Independent Controls, Operations Support and Technology Support.

London's European Operations: Centralized Billing Operations including invoice generation, customer debiting and related investigations.

Organization: Citigroup® Global Transaction Services Europe, Business Management
First registered: 1996
Certificate Number: FS34572
Current Standard: ISO 9001:2000 (achieved registration March 2002)
Scope: Global Transaction Services Europe, Business Management, Cash and Trade Product/Project Management and Design, EMEA Implementations. The European Sales Process managed through the London office.

ISO 9000 Quality Management¹⁰⁷

Additionally, Citigroup looks to consistently raise the bar in the areas of software and service quality. Of one of the multiple initiatives aimed at increasing quality within CitiTech, is the adoption of the Software Quality Assurance (SQA) Processing Center. The SQA Processing Center was developed for Software Quality Managers (SQMs) to manage the SQA Process for the organizations

they represent. The SQMs will be able to track the projects and the deliverables through a series of screens designed to show phases, deliverables with color codes to represent deviations, risk acceptances, and non-compliant issues. The ultimate goal is to incorporate many of the industry standards that promote quality and secure IT products and services into both onshore and offshore IT services.

10.5 – Citigroup’s Strategy on Outsourcing

Citigroup is very much a pioneer when it comes to offshore outsourcing and has maintained an offshore presence since the early 1990s. Consequently, Citigroup has numerous strengths when it comes to outsourcing solutions, such as operational experience, technological expertise, a global presence, dedicated resources, and a demonstrated ability to partner with clients and offshore providers. To assist management throughout outsourcing initiatives, Citigroup maintains an Advisory Services Group. The services group helps mitigate administrative burdens and aims to capitalize on technological efficiencies.

In addition to the Advisory Services Group, Citigroup is also a member of the Offshore Interest Group, which was created by Tandy Gold of FleetBoston Financial.¹⁰⁸ The Offshore Interest Group is a clearinghouse for ideas and a forum for discussion on everything from vendor prices to IT applications to the competencies needed in other nations to develop them. The group now has 40 members, including Gartner, Marsh & McLennan, MetLife and Verizon.

Most importantly, Citigroup maintains numerous internal project and management steering committees in various business and technology segments whose responsibility is policy and control setting. These groups are largely responsible for creating and setting the standards by which outsourcing initiatives must abide. For example, one of the primary database management groups, within Citigroup, is GDMG. The GDMG group maintains an internally published document detailing terms of service. Under these terms, they maintain a section

specifically dedicated to outsourcing and contract employment. As found in the Database Security Model:

The Database Security Model (DSM) provides guidelines and solutions for implementing information security within firm supported Relational Database Management Systems, in compliance with Citigroup Information Security Standards (CISS) from Citigroup Information Security Office.¹⁰⁹

10.6 – Vendor Procurement

As repeated throughout the paper, proper vendor selection and management are keys to successful outsourcing initiatives. Management at Citigroup understands that partnering with technology vendors is both necessary and beneficial. Citigroup has identified the following as the main end goals of any outsourcing initiative:

- Improved cycle times for systems delivery and routine upgrades
- Improved service levels for internal and external customers
- Expedited time to market for product launches
- Ready access to a pool of qualified technology professionals
- Cost savings
- Improved productivity of internal technology resources

However, selection of technology vendors must be done in a manner that assures appropriate management safeguards and controls are in place to protect Citigroup's assets and interests, and customers' assets and privacy. This is especially crucial when the technology vendor provides critical products, and services. Citigroup maintains a set of confidential standards and policies surrounding vendor selection and management, or CITMP¹¹⁰. These standards were developed to establish minimum requirements and to facilitate the following objectives:¹¹¹

- Economic leveraging of technology vendor relationships across the enterprise
- Development and use of technology vendor information that can be shared across the enterprise
- Partnership of business, technology, procurement and legal resources
- Appropriate technology vendor selection, especially in the case of Outsource Service Providers

- Use of standard and consistent contract provisions
- Ongoing technology vendor management, especially with respect to Outsource Service Providers
- Compliance with applicable Citigroup policies (such as Citigroup Information Technology Management Policy, CITMP) and regulatory requirements.

10.7 – Risk Management (Checks and Balances)

It is imperative that Citigroup maintains the integrity and confidentiality of its corporate assets and information. This includes security on all systems and processes handled by an entity other than Citigroup including control of proprietary and customer information transferred to outsourced service providers. CITMP compliance ensures outsourced activities maintain required levels of service and continuity of business.

Outsourcing of information and transaction processing at Citigroup involves operational risks that are similar to those that arise when these functions are performed internally. However, under outsourcing arrangements the risk management measures commonly used to address these risks are generally under the direct control of the service provider rather than Citigroup. This potentially exposes Citigroup to additional risks because of reduced operational control over these outsourced activities.

Furthermore, additional legal and regulatory risks may exist. Due to these factors a set of policies were developed to ensure that technology contracting and outsourcing decisions are undertaken with appropriate management safeguards and controls in place to protect Citigroup's assets and interests. To mitigate such risks, each organization must establish and maintain a documented contracting process consisting of multiple checks and balances to assure that all contracts are CITMP compliant.

It is the responsibility of each business segment to ensure compliance with these standards within its organization. Compliance means that a business has implemented processes and procedures that meet the requirements of these

standards. Vendor selection is internally audited by the Audit and Risk Review organization for compliance with CITMP during scheduled business or operational reviews. Prior to executing any outsourcing agreement the Citigroup businesses and respective technology groups must:¹¹²

- Conduct reviews of the service provider that includes an evaluation of information access and fraud prevention controls.
- Provide an assessment of the continuity of business plans of the vendor must be performed prior to executing an agreement or contract and on an annual basis thereafter.
- Implement and execute procedures to ensure that all vendors under their control are performing in accordance with contract and performance expectations.
- Assure that the controls over outsourced information and transaction processing activities are equivalent to those that would be implemented if the activity were conducted internally.
- Ensure that Citigroup processes and those of the outsource company, as defined in the contract, provide end-to-end processes, capabilities and results that together meet the provisions of the CITM Policy and include Exit Strategy.

Outsourcing does not diminish or eliminate the responsibility of a business / technology group to comply with Citigroup, and other appropriate business, policies and standards, and all applicable laws and regulations governing Citigroup.

10.8 – Outsourcing Initiatives

The outsourcing of non-core key technology activities either to external vendors or other Citigroup entities is a strategic business solution and is considered by Citigroup Information Technology organizations in response to an increasingly competitive marketplace. While many companies struggle to incorporate outsourcing into daily business operations, Citigroup is has been successfully applying outsourcing initiatives for over 10 years.

Citigroup is the bank that never sleeps. It is analogous to a machine, whose end goal is to increase profits, reduce cost, expand, expand and expand. Citigroup's outsourcing initiatives are no different as it aims to expand, reduce

cost and increase profits all through outsourcing (offshore, onshore, whichever seems best).

Ravi Aron, professor of operations and business management at the University of Pennsylvania's Wharton School, says that soon large U.S. firms will begin to own the service providers in India. He goes on to mention that as it stands there are several outsourcing firms up for sale. In early 2004 Citigroup did just that when it purchased e-Serve International Ltd for \$122 million. e-Serve is a company of roughly 5,000 employees and provides IT-enabled solutions for the Financial Services industry. Bill Vance, former senior vice president of Sitel Corporation a U.S.-based call center company says direct ownership can be a less costly alternative than outsourcing, and it gives management more control.¹¹⁴

Citigroup also maintains a stake in i-Flex and has contracted a \$200-million agreement with the Mumbai, India-based software company in September 2004. i-Flex is a SEI CMM Level 5 corporation since 1999 and was ranked #3 worldwide in 1998 among corporate banking software vendors.¹¹⁵ Reveleus, a business of i-Flex Solutions, which provides business intelligence and analytical application for financial institutions, will provide its Mortgage Analytics tool to CitiMortgage and CitiFinancial Mortgage to integrate marketing and credit risk analysis of its customers.¹¹⁶ Ironically, i-flex was incubated by Citigroup (Citibank at the time) in the early 1990s with a \$400,000 investment. i-Flex has expanded and has a net worth of about \$250 million.¹¹⁷

Additionally, Citigroup looks to leverage outsourcing by handing over level 1 support such as database management and corporate help desk to offshore partners such as OrbiTech (now, Polaris-OrbiTech). In areas such as TI and Database Management, outsourcing Level 1 support allows for 24-7 support at a reduced cost. Lastly, Citigroup looks to outsource application upgrades, server migrations and database migrations to companies like IBM and Oracle and Sybase.

10.9 – Summary

As mentioned in Chapter IV, financial institutions are one of the largest industries taking advantage of offshore outsourcing. Citigroup has been doing it since the early 1990s and is very much a pioneer when it comes to offshore outsourcing. This chapter showed how Citigroup is committed to its offshore outsourcing. Citigroup has established numerous initiatives with offshore contractors such as IBM, and i-Flex and has even gone so far as to purchase offshore e-Serve in order to ensure the integrity and stability of its interests. Additionally, the case study looked at two areas of management, risk management and vendor selection, and what policies Citigroup mandates each business segment to adhere to.

Chapter XI – Lessons Learned

"Experience is a hard teacher because she gives the test first, the lesson afterwards."

(Unknown)

11.1 – Introduction

We have explored a broad range of topics from economics to technology to outsourcing to management and software models. Each topic could easily be a thesis on its own. My main objective was not to focus on one, or two areas of outsourcing but to provide a macro-level approach to all areas within the outsourcing debate. At the macro-level I felt I could provide more meaning to a wider audience, whereas the micro-level may mean more to only a select few.

My standpoint on outsourcing remains, as it was at the beginning, still neutral. However, this is not to say I have not learned and benefited a great deal from this paper. I remain neutral due to the fact that outsourcing is not black and white but rather a million shades of gray. For every advantage to outsourcing there is an equal disadvantage and vice-versa and for every negative opinion of outsourcing there is an equal positive one.

This thesis has shown how various advantages such as decreased operating costs and 24-7 development and support can be nullified through poor vendor alignment, and public opinion, which could lead to problems later on. I have split the lessons learned into three sections, the Cons, Pros and feelings on Citigroup.

11.2 – Lesson Learned... [The Cons]

For many organizations the decision to outsource has largely been determined, not after thorough analysis, but only after seeing potential cost savings. Many organizations appear to have tunnel vision and are short-term

focused on profits and cost reduction rather on being better aligned and future-oriented. Focusing solely on cost reduction is detrimental to the growth of the business and its employees. However, there are some good points... Businesses are becoming more aware of the role technology plays as more CIOs and business execs attend conferences on the criticality IT plays in an organization.

Additionally, I agree with points stated earlier that talented individuals will leave the IT industry and pursue other fields. Although I love technology, I would much rather have gone into the physics field, or maybe the medical field, if I knew I was going to be treated as an expense rather than an asset. The fear of losing my job is always a threat that sits at the back of my mind. In fact, it is in the back of many IT professionals. As a result, the U.S. IT community is beginning to unite as the concern over increased job loss increases forcing legislatures to take a stand.

I also have my doubts surrounding the stability of outsourcing to emerging markets. In many cases, offshore operations are maintained in unstable political and / or social environments. In these cases companies are not only relying on the ethics of an offshore company, but also on the governments those companies fall under. Industries are yet to feel the *wrath* of organizations like the OCC or SEC come down on outsourcing. Many simply do not have the necessary procedures in place to prevent security breaches or provide audit tracking.

11.3 – Lesson Learned... [The Pros]

Of course, there is a time and a place for outsourcing and for some organizations the time is now.

I truly believe that companies need to focus more on what they do best. This takes us back to Chapter II and the idea of competitive advantage. Financial, healthcare, automotive and various other industries should not be heavily focused on non-core technology services (i.e. technology infrastructure and help desk). Although there is a lot of pride in maintaining all services within

the walls of the company, many times it is impractical. I like to apply the following scenario where, personally, I wouldn't paint my own house if I didn't have the time and could afford a painter. Sometimes it just makes sense and ultimately is able to benefit both parties.

However, there exists the idea that when a service leaves the hands of the owner, it is out of the owner's hands. Enter stage right, the SLAs, CMM levels and ISO compliance and numerous other TLAs. As long as a company performs the due diligence and contract management, both sides will stand to benefit.

Lastly, I see offshore outsourcing as a benefit to the world economy. Although there are many downsides to globalization, it is about time the rest of the world began to see some of the wealth the U.S. has to offer. Sadly, this is not one of the reasons why companies outsource, but it is one positive coming out of it. Unlike the sweatshops created by Nike and Gap, offshore technology firms offer relatively high salaries in comparison to other jobs available in developing countries. This should be seen as a positive outcome, and should not be narrowly looked at as jobs being exported out of the U.S.

11.4 – Thoughts on Citigroup

Although Citigroup is taking advantage of the latest in outsourcing through acquisitions of outsourcing vendors to leveraging offshore consultants, they will need to be careful when dealing with audit and security related contracting. Citigroup has already had business segments in Japan shut down due to poor security standards and has had operations penalized in Europe for over *zealous* business strategies. As it stands, Citigroup is on the 'watch-list' of many of the top regulators including the organizations like the Securities Exchange Commissions (SEC) and the Comptroller of the Currency (OCC). As business and technology processes become, what steps is Citigroup taking to assure that data integrity and record keeping is being done in accordance with these standards? Ultimately, the SEC and OCC couldn't care less if ISO, and CMM standards are being followed.

In addition to audit and security issues, changes in corporate culture should also be monitored. Many of the information technology workers feel disenfranchised. Where, during the boom of the late 90's, having [IT]¹¹⁸ appended to the end of your name was a badge of courage, is now a scarlet letter. Additionally, Citigroup employees are not being kept abreast of the latest developments in offshore outsourcing and how, if any, affects it will have on their respective positions, departments and organization.

Additionally, I see a culture clash between offshore consultants and internal employees as offshore teams rarely have the adequate resources needed to perform their job functions. In many cases strict security, audit or general bureaucratic policies and procedures can obstruct progress on a particular initiative and many offshore workers do not understand or are frustrated with many company procedures. The end result can often be (and has been) date slippage, cost overrun and often times the unplanned involvement of onshore employees.

11.5 – Conclusion

When all is said and done a heck of a lot more is said then done.

My lessons learned from an academic standpoint are countless. Regardless of the outcome of this paper, I am satisfied with my ability to focus and create a fluid paper spanning multiple subjects and incorporating a breadth of knowledge and expertise from research companies, outsourcing companies and individual businesses.

Throughout the 7 months I have been working on this thesis, I have been confronted with all sorts of tips and leads from friends and professionals. I have come a long way from the traditional 20 page term paper and have opened my mind to various viewpoints and tried to consider every angle possible. There is never one right or wrong answer but many right answers and an equally number

of wrong answers (to the n'th degree). What is ultimately important is that the reasons behind our beliefs are well thought out, unbiased and open-minded. And this will be the ultimate challenge as businesses seek greater profits, a more global presence and a more specialized and diverse work force.

Part Four – Appendices

The appendix will provide more detailed analysis of various metrics and methodologies.

Appendix A – Quality Management Models

Appendix B – Immaturity of CMM

Appendix C – CMM Spin-offs & SPICE

Appendix D – TRIPs

Appendix E – IEEE Ethics

Appendix F – Citigroup Procurement Standards

Appendix A – Total Quality Management

A.1 – European Foundation for Quality Management (EFQM)¹¹⁹

The EFQM Model is a non-prescriptive TQM framework based on nine criteria. Five of these are 'Enablers' and four are 'Results'. The 'Enabler' criteria cover what an organization does. The 'Results' criteria cover what an organization achieves. 'Results' are caused by 'Enablers' and feedback from 'Results' help to improve 'Enablers'. The EFQM Model, which recognizes there are many approaches to achieving sustainable excellence in all aspects of performance, is based on the premise that excellent results with respect to Performance, Customers, People and Society are achieved through Leadership driving Policy and Strategy, that is delivered through People Partnerships and Resources, and Processes.

EFQM is a non-prescriptive framework that recognizes there are many approaches to achieving sustainable excellence. Within this non-prescriptive approach there are some fundamental concepts which underpin the EFQM Model:

- Results Orientation: achieving results that delight all the organization's stakeholders.
- Customer Focus: creating sustainable customer value.
- Leadership & Constancy of Purpose: visionary and inspirational leadership, coupled with constancy of purpose.
- Management by Processes & Facts: managing the organization through a set of interdependent and interrelated systems, processes and facts.
- People Development & Involvement: maximizing the contribution of employees through their development and involvement.
- Continuous Learning, Innovation & Improvement: challenging the status quo and effecting change by using learning to create innovation and improvement opportunities.
- Partnership Development: developing and maintaining value-adding partnerships.

- Corporate Social Responsibility: exceeding the minimum regulatory framework in which the organization operates and to strive to understand and respond to the expectations of their stakeholders in society.

The EFQM Model is one of the most widely used organizational frameworks in Europe.

A.2 – Deming Cycle¹²⁰

The Deming cycle, or PDSA cycle is a continuous quality improvement model consisting out of a logical sequence of four repetitive steps for continuous improvement and learning: Plan, Do, Study (Check) and Act. The PDCA cycle is also known as the Deming Cycle, the Deming wheel of continuous improvement spiral.

Benefits of the PDCA cycle:

- Daily routine management-for the individual and/or
- The team,
- Problem-solving process,
- Project management,
- Continuous development,
- Vendor development,
- Human resources development,
- New product development, and
- Process trials.

The Deming cycle, or PDSA cycle:

- PLAN: plan ahead for change. Analyze and predict the results.
- DO: execute the plan, taking small steps in controlled circumstances.
- STUDY: CHECK, study the results.
- ACT: take action to standardize or improve the process.

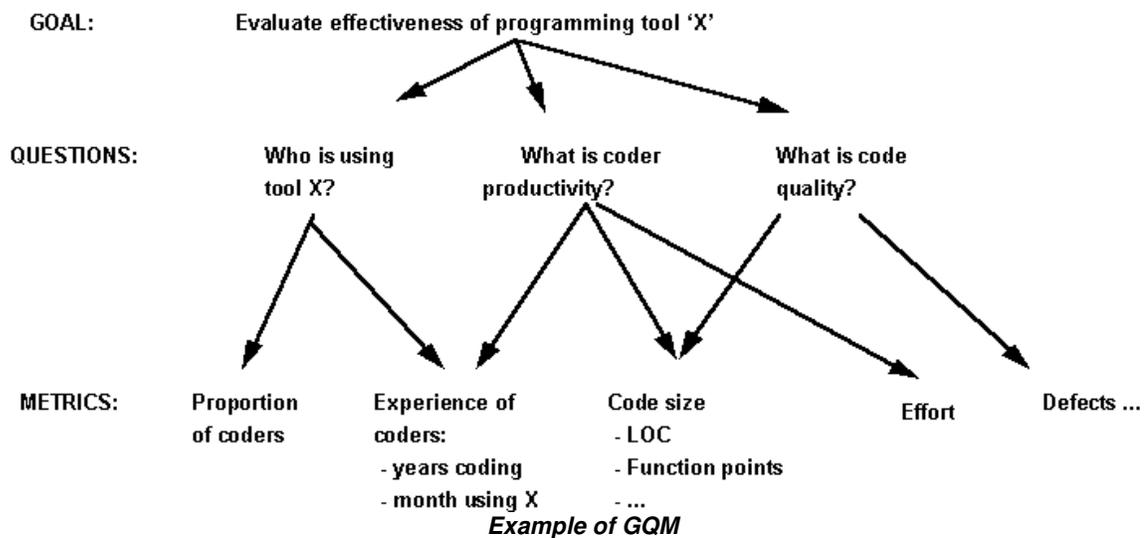
A.3 – Goal-Question-Metrics (GQM)

Many software metrics have failed because they had poorly defined, or even non-existent objectives. To counter this problem Vic Basili and his colleagues at Maryland University developed a rigorous goal oriented approach

to measurement. GQM presents a systematic approach for integrating goals to models of the software processes, products and quality perspectives of interest based upon the specific needs of the project and the organization. (Basili et al, 1994).¹²¹

Often combined with BSC, the fundamental idea of GQM is simple; managers proceed according to the following three stages:

- The first stage sets specific goals in terms of purpose, perspective and environment.
- The second refines the goals into quantifiable questions that are tractable.
- The third deduces the metrics and data to be collected to answer the questions.



Appendix B –The Immaturity of CMM¹²²

Before the implementation and creation of the various new models and frameworks of CMM, James Bach, wrote an article titled, *The Immaturity of CMM*, which dictated the many inconsistencies and failures of the general model. Although right in his remarks, many of the inconsistencies have been updated and integrated into new CMM models. James Bach suggests the following as some of the key problems of the CMM.

- The CMM has no formal theoretical basis, and is based on the experience of "very knowledgeable people". Therefore, other models based on experiences of knowledgeable people have equal veracity.
- The CMM has only vague empirical support. The author states that without a comparison of alternative process models under controlled conditions, it is difficult to accept the CMM as a valid solution.
- The CMM does not consider people, only process.
- The CMM reveres institutionalization of process for its own sake. Institutionalization often leads to a duplication of effort, with organizations implementing an oversimplified public process, and a more complicated (and secret) private process.
- The CMM contains very little information on process dynamics. The author states that most and perhaps all of the key practices could be performed usefully at level 1, depending on the particular dynamics of the particular organization, yet the stratification of the CMM prevents these methods from being part of the process for less mature organizations.

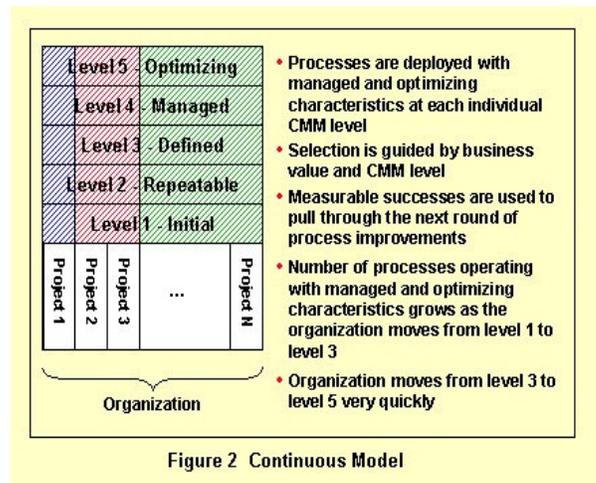
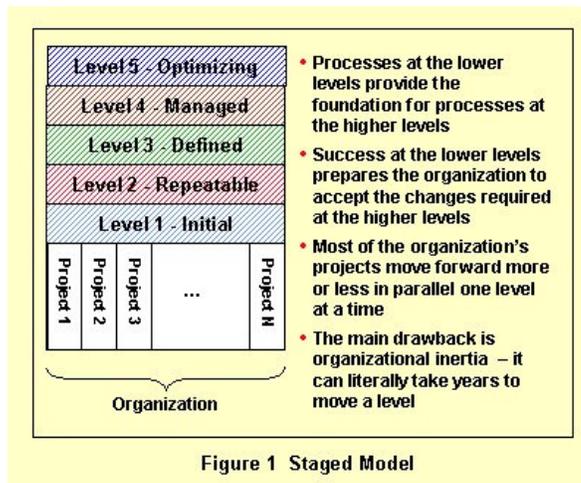
The CMM encourages displacement of goals from the true mission of improving process to the artificial mission of achieving a higher maturity level, which may blind the organization to the most effective use of its resources.

Appendix C – Attack of the CMM clones

The nice thing about standards is, there are so many to choose from.
(Unknown)¹²³

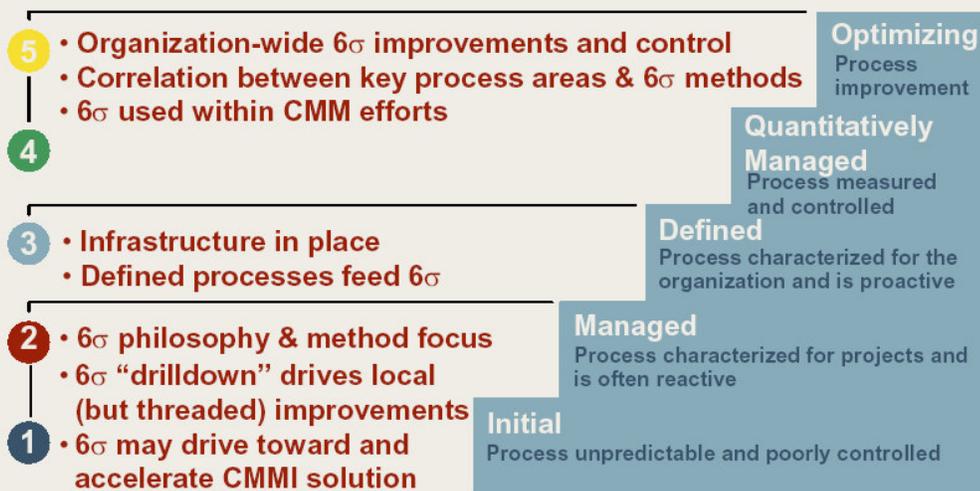
C.1 – Integrated Capability Maturity Model (CMMI)

A recent addition to CMM is CMMI, or Integrated Capability Maturity Model. The CMMI model, also developed by SEI, improves upon CMM by more explicitly linking management and engineering activities to business objectives. CMMI expands the scope of and visibility into the product life cycle and engineering activities to ensure that the product or service meets customer expectations. CMMI is more people-oriented than CMM-oriented and incorporates lessons learned from additional areas of best practice such as risk management, and supplier management. CMMI also implements more robust high-maturity practices and addresses additional organizational functions critical to its products. Lastly, CMMI looks to increase compliance with internationally accepted standards such as ISO.



CMMI Staged VS Continuous Model ¹²⁴

CMMI Staged and Six Sigma



**Six Sigma is enterprise wide.
Six Sigma addresses product and process.
Six Sigma focuses on "critical to quality" factors.**

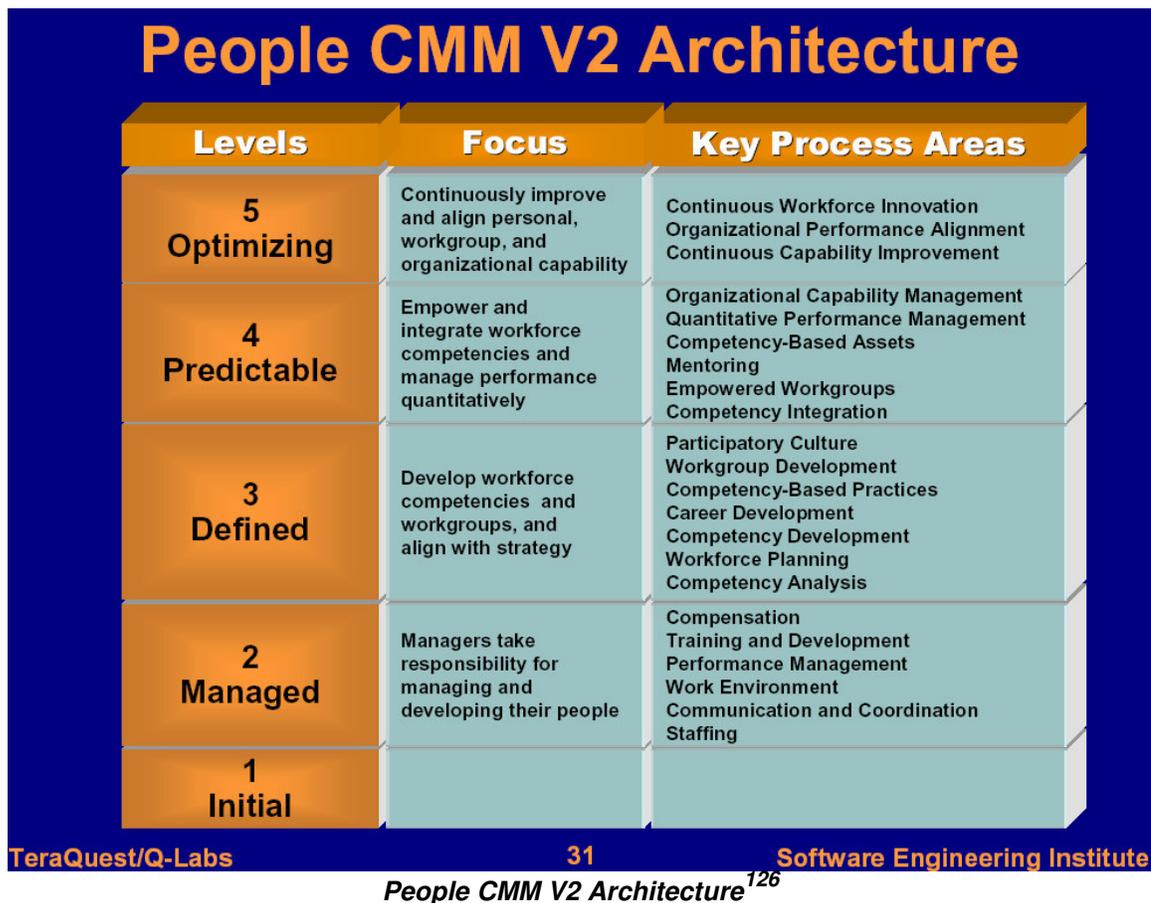
C.2 – People Capability Maturity Model (P-CMM)

Where CMM focuses too heavily on process or technology, not people, P-CMM is an adaptation [to CMM] that aims to focus on an organization's human capabilities, especially in areas of software and information systems development. The motivation for the P-CMM is to radically improve the ability of software organizations to attract, develop, motivate, organize, and retain the talent needed to steadily improve software development capability.

Strategic objectives pursued in the P-CMM are improved capability of software organizations by increasing/improving the capability of staff, assurance that software development capability is an attribute of the organization rather than of a few individuals, align the motivation of the staff with those of the organization, and retention of people assets within the organization.

The P-CMM includes practices in the areas of:

- Staffing (includes recruiting, selection and planning)
- Training
- Work environment
- Organizational and individual competence
- Team and culture development
- Managing performance
- Compensation
- Career development
- Mentoring and coaching



C.3 – The Systems Security Engineering CMM (SSE-CMM)

As mentioned in earlier chapters, security is a top concern among management, so it is not surprising that both customers and suppliers are interested in improving the development of security products, systems, and services. While there are many generally accepted principles relating to security in systems engineering, the field lacks a standard framework for evaluating such

practices. The SSE-CMM provides a framework to measure and improve performance in the application of security engineering principles.

The SSE-CMM Project main objective is to advance security engineering to a more defined, mature, and measurable discipline by implementing appraisal methods to enable:¹²⁷

- Focused investments in security engineering tools, training, process definition, management practices, and improvements by engineering groups
- Capability-based assurance, that is, trustworthiness based on confidence in the maturity of an engineering group's security practices and processes
- Selection of appropriately qualified providers of security engineering through differentiating bidders by capability levels and associated programmatic risks

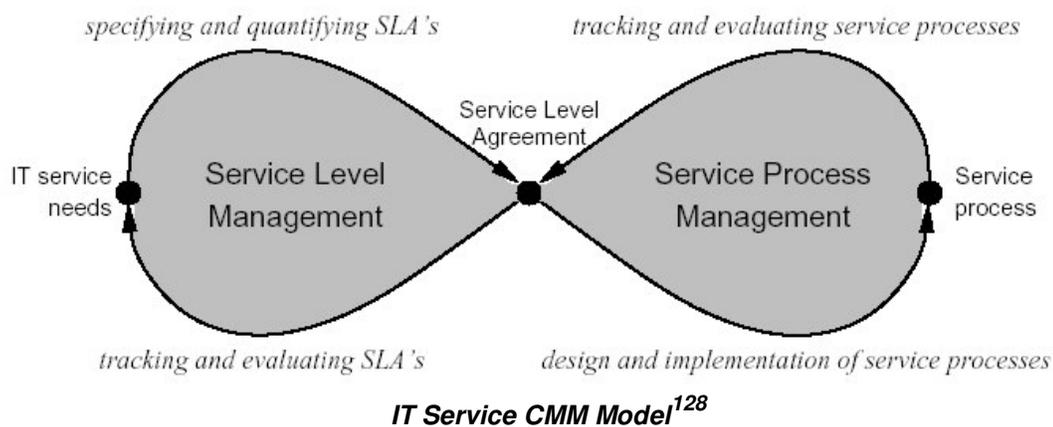
The SSE-CMM describes the critical components of an organization's security engineering process necessary to ensure quality security engineering.

The model's intended use includes:

- Tool for engineering organizations to evaluate security-engineering practices and define improvements to them.
- Standard mechanism for customers to evaluate a provider's security engineering capability.
- Basis for security engineering evaluation organization (e.g., system certifiers and product evaluators) to establish organization capability-based confidences (as an ingredient to system or project security assurance).
- The SSE-CMM addresses security-engineering activities that span the entire trusted product or secure system life cycle, including concept definition, requirements analysis, design, development, integration, installation, operations, maintenance, and decommissioning.
- The SSE-CMM applies secure product developers, secure system developers and integrators, and organizations that provide security services and security engineering.
- The SSE-CMM applies to all types and sizes of security engineering organizations, such a commercial, government, and academic.

C.4 – IT Service CMM

Most CMM models are constantly being updated and newer versions are released when available. One of the new models currently under development is the IT Service Capability Maturity Model (IT Service CMM), which is a maturity growth model aimed at providers of IT services. IT Service CMM enable IT service providers to assess their capabilities with respect to the delivery of IT services, and provides IT service providers with directions and steps for further improvement of their service capability. Areas that fall into scope include hardware and software management, operations, software maintenance, etc. The structure of the model is equal to that of the Software CMM, however, the main focus is on IT service.



C.5 – Trusted CMM (T-CMM)

Software assurance has traditionally been derived from a lengthy testing and evaluation period. Trusted CMM aims to transfer quality assurance to the development process, thereby significantly reducing the evaluation cycle. The Trusted Software Development Methodology, was integrated into the Software Engineering Institute's T-CMM under a contractual agreement between the National Security Agency (NSA) and the Software Engineering Institute. The T-CMM allows organizations to use one reference model and derive from it the

benefits of two models, namely software process improvement and increased software assurance.

C.6 – Integrated Product Development CMM (IPD-CMM)

Not all models have been successful. The IPD-CMM was developed by the Enterprise Process Improvement Collaboration (EPIC) to serve as a framework for improvement of processes for the entire product life cycle and of processes for integrating product development efforts across the enterprise. IPD-CMM was built on the Systems Engineering CMM and adds to it the concept of organizational stages. These stages are similar to the organizational maturity levels in the SW-CMM. However due to the complexity, the project was halted in November 1997. Much of the effort placed into IPD-CMM was incorporated into CMMI.

C.7 – Software Acquisition CMM (SA-CMM)

The SA-CMM is a capability maturity model for organizations that acquire or procure software-intensive systems. The model is largely used to assess process maturity and to improve the software acquisition process. The SA-CMM addresses problems in managing software projects, while educating companies on the perception of low vs. high quality and productivity in software projects. Additionally, it promotes the need for government and industry to strengthen the software supplier community.

SA-CMM Key Process Areas

Level	Focus	Key Process Areas
5 Optimizing	<i>Continuous process improvement</i>	. Acquisition Innovation Management . Continuous Process Improvement
4 Quantitative	<i>Quantitative management</i>	. Quantitative Acquisition Management . Quantitative Process Management
3 Defined	<i>Process standardization</i>	. Training Program . Acquisition Risk Management . Contract Performance Management . Project Performance Management . User Requirements . Process Definition and Maintenance
2 Repeatable	<i>Basic project management</i>	. Transition to Support . Evaluation . Contract Tracking and Oversight . Project Management . Requirements Development and Mgt . Solicitation . Software Acquisition Planning
1 Initial	<i>Competent people and heroics</i>	<i>No KPAs at this level</i>

SA-CMM Key Process Areas¹²⁹

In contrast to the Software CMM (SW-CMM) or CMMI, which helps a systems/software development organization (the supplier or developer) mature and increase predictability in the development of software-intensive systems and software-related products, the SA-CMM focuses on the buyer end of supplier relationship.

C.8 – Software Process Improvement and Capability dEtermination (SPICE)¹³⁰

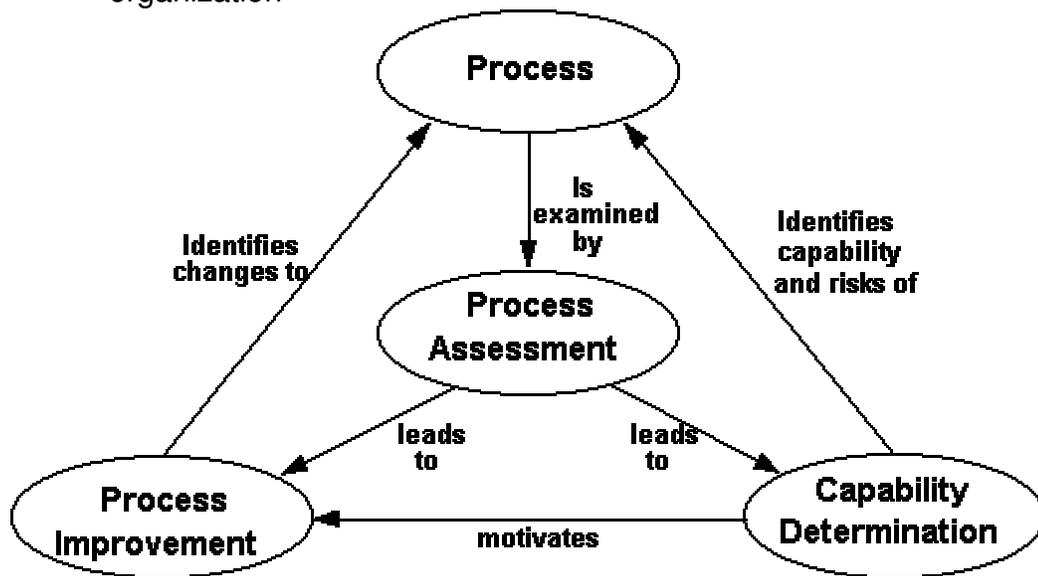
Although still in its trial stages, the SPICE Project was introduced in 1995 by the Software Quality Institute¹³¹ based on three principles goals:

- Develop a working draft for a standard for software process assessment.
- Conduct industry trials of the emerging standard.
- Promote the technology transfer of software process assessment into the software industry worldwide.

The project is a major international initiative to develop a Standard for Software Process Assessment. SPICE aims to incorporate many of the standards that already exist, such as ISO. Although SPICE trials have closed, work has now begun on revisions to of the original SPICE publication (International Standard ISO/IEC 15504 – Process Assessment).¹³²

SPICE benefits the software development community in the following ways:

- Software suppliers will submit to just one process assessment scheme (presently numerous schemes are used)
- Software development organizations will have a tool to initiate and sustain a continuous process improvement
- Program managers will have a means to ensure that their software development is aligned with, and supports, the business needs of the organization



*SPICE Software Process Assessment*¹³³

Appendix D – The Requirements of TRIPs¹³⁴

We think in generalities, but we live in details.
(Alfred North Whitehead)¹³⁵

TRIPs requires member states to provide strong intellectual property rights in many of these areas. For example, under TRIPs:

- Copyright terms must extend to 50 years after the death of the author (although films and photographs are only required to have fixed 50 and 25 year terms, respectively).
- Copyright must be granted automatically, and not based upon any "formality", such as registrations or systems of renewal.
- Computer programs must be regarded as "literary works" under copyright law and receive the same terms of protection.
- National exceptions to copyright (such as "fair use" in the United States) must be tightly constrained.
- Patents must be granted in all "fields of technology" (regardless of whether it is in the public interest to do so).
- Exceptions to patent law must be limited almost as strictly as those to copyright law.

In each state, intellectual property laws may not offer any benefits to local citizens which are not available to citizens of other TRIPs signatories (this is called "national treatment"). TRIPs also has a most favoured nation clause.

Many of the TRIPs provisions on copyright were imported from the Berne Convention for the Protection of Literary and Artistic Works and many of its trademark and patent provisions were imported from the Paris Convention for the Protection of Industrial Property.

Appendix E – IEEE Code of Ethics¹³⁶

Those are my principles. If you don't like them I have others.
(Groucho Marx)¹³⁷

We, the members of the IEEE, in recognition of the importance of our technologies in affecting the quality of life throughout the world, and in accepting a personal obligation to our profession, its members and the communities we serve, do hereby commit ourselves to the highest ethical and professional conduct and agree:

1. To accept responsibility in making engineering decisions consistent with the safety, health and welfare of the public, and to disclose promptly factors that might endanger the public or the environment;
2. To avoid real or perceived conflicts of interest whenever possible, and to disclose them to affected parties when they do exist;
3. To be honest and realistic in stating claims or estimates based on available data;
4. To reject bribery in all its forms;
5. To improve the understanding of technology, its appropriate application, and potential consequences.
6. To maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations.
7. To seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others.
8. To treat fairly all persons regardless of such factors as race, religion, gender, disability, age, or national origin;
9. To avoid injuring others, their property, reputation, or employment by false or malicious action.
10. To assist colleagues and co-workers in their professional development and to support them in following this code of ethics.

Appendix F – Citigroup Outsource Service Provider Selection

Criteria¹³⁸

- Does the Technology Product function as required? Is it user-friendly? Does it satisfy project needs? Where applicable, evaluation should include real application testing of the technology.
- Does the Technology Vendor have patents or license agreements on key technologies?
- Have the Intellectual Property Rights (IPR) assignment been agreed to on all development activities?
- Has the Technology Vendor's technical competence depth and breadth been reviewed and are there backup personnel to key technologists?
- Is the Technology Vendor's staffing adequate – for example, are there employment contracts with key employees?
- Has an evaluation of the Technology Vendor's key personnel been performed, where deemed necessary by the business?
- Is the Technology Vendor willing to identify a relationship manager and a dedicated team for the proposed project?
- Is the Technology Vendor conveniently located to provide staffing for any day-to-day service required and is the vendor's back office capacity adequate for any customer service needs?
- Has an appropriate due diligence been performed on key subcontractors the Technology Vendor will rely upon to perform certain tasks?
- Does the Technology Vendor have the ability to achieve necessary scalability?
- Does the Technology Vendor have an adequate continuity of business plan and was there a successful recovery test performed within the past year?
- Is the Technology Vendor's architecture compatible with/interoperable with Citigroup's?
- Is the Technology Vendor willing and able to comply with Citigroup's technology, information security, privacy and other applicable policies and industry regulations (as determined by Compliance)?
- Was an on-site visit to review the Technology Vendor's facilities conducted, where deemed necessary by the business?
- Does the Technology Vendor have any current or prior relationship with any Citigroup business and have these relationships been reviewed for any issues with performance?
- Have the Technology Vendor's major customers been identified and have they provided adequate references?

Management Structure, Operations & Controls

- Does the Technology Vendor's senior management team include individuals with experience in business strategy, administration, marketing and finance as well as technology?
- Has investigation into how the Technology Vendor principals are compensated failed to identify any conflicts of interest?
- Does the Technology Vendor have and follow adequate written standards, policies and procedures relating to internal controls, security (including firewalls, encryption, customer authentication and fraud prevention), privacy protection, continuity of business, systems development and maintenance, and employee background checks?
- Does the Technology Vendor conduct regular self-audits and do they have action plans to address any deficiencies?
- Does the Technology Vendor have external or internal audits conducted by a third party relating to the quality of and controls over its operations (for example, SAS 70 reviews) and do they have action plans to address any outstanding deficiencies?
- Does the Technology Vendor have working knowledge of regulations applied to financial service companies; for example, Reg. E, privacy and anti-money laundering?
- Does the Technology Vendor have the capacity to provide Citigroup with complete and timely access to Citigroup information that is held by them?
- Are the Technology Vendor's management information systems adequate; for example, customer data protection, access methods, reporting, performance monitoring and reporting, and scalability?
- Is the Technology Vendor's insurance coverage adequate; for example, fidelity, fire, liability, data losses and transmission errors?
- Does the Technology Vendor have a good business reputation?
- Is the Technology Vendor free of outstanding customer complaints and litigation? (These can be identified by checking references, the Better Business Bureau, state attorneys general offices, state consumer affairs offices and, when appropriate, audit reports and regulatory reports.)

Financial Condition

- Have the financial statements of the Technology Vendor been reviewed and deemed acceptable?
- If publicly held, publicly available audited financial statements and annual report should be reviewed, as well as any published bond rating.
- If privately held, the Technology Vendor should provide audited financial statements for the last 2 years, and CFO-verified quarterly close figures for the 2 most recent quarters. Further, the Technology Vendor should disclose investor(s), venture

capitalist(s), and/or significant sources of finances to help verify that investors are reputable. Some additional measurements that may provide valuable information:

- ✓ Cash flow analysis, including burn rate
- ✓ Cash-on-hand
- ✓ Revenue-to-expense ratio

Exit Strategy / Contingency Planning Analysis

- Do multiple Technology Vendors exist who can provide the required Technology Product or Technology Services?
- If necessary, could Citigroup self-provision the required Technology Product or Technology Services?
- Are there risks if the business should have to discontinue an application or offering due to the Technology Vendor's failure to perform?

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