

Engineering Management
Field Project

QUALITATIVE STRATEGY FOR
INBOUND CALL CENTER OUTSOURCING

By

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Executive Summary

An analysis of the various challenges of the call center industry, together with the challenges of outsourcing, revealed a need for developing a strategy that acts as a guide for organizations that are willing to outsource their call center operations. This research therefore develops a strategy for this purpose. The research first provides mitigation strategies for the challenges of outsourcing and the challenges of the call center industry, followed by a strategy for the outsourcing of call center services.

Telephone call centers are an integral part of today's business world, serving as a primary channel for customer contact for organizations in many industries. Globalization, the advancements in the telecommunication and technology industries, and the availability of cost effective work forces around the world are compelling organizations to outsource their functions (call center services) to reap the benefits that come with outsourcing.

Organizations outsource functions, especially a function that is not their core competence, for a multitude of reasons. These reasons may include cost savings, quality enhancement/improvement, reduced time to market, tax benefits, and risk management.

Outsourcing also comes with its share of issues. A few examples of the challenges involved in outsourcing include cultural differences, knowledge transfer to suppliers while protecting intellectual property (IP), knowledge retention, language barriers, ethics, norms of behavior, distance and time zones, infrastructure, privacy and security, skill set/quality, objectivity, geopolitical climate, labor backlash, communication, end-user resistance, and governance.

There are also many challenges associated with the call center industry, such as, but not limited to, deploying the right number of staff members with the right skills to the right schedules in order to meet an uncertain and time-varying demand of service, forecasting traffic, acquiring capacity, deploying resources, and managing service delivery. Therefore, despite the advancements in telecommunications and information technology, the challenges faced by client organizations that outsource their inbound call center services abound.

While choosing outsourcing/offshoring as their strategy, an organization can avoid many of the disadvantages that arise due these risks/issues by adapting a proactive and careful approach such as the strategy developed in this research.

Table of Contents

Acknowledgements.....	i
Executive Summary	ii
List of Figures	vi
Definitions.....	vii
1 Introduction.....	1
1.1 Research Objective.....	1
1.2 Background	2
1.3 Current Scenario.....	2
1.4 Call Center—An Introduction	6
1.5 Trends in Outsourcing.....	8
2 Literature Review.....	11
2.1 Reasons/Benefits of Outsourcing	12
2.2 Challenges / Risks of Outsourcing	17
2.3 Business Impact.....	25

2.4	Inbound Call Centers - Capabilities and Challenges.....	27
3	Research Procedure.....	37
3.1	Information Gathering.....	37
3.2	Information Analysis.....	37
3.3	Developing a Strategy for Outsourcing of Inbound Call Center Services	38
4	Results.....	39
4.1	Mitigating Outsourcing Challenges.....	39
4.2	Mitigating Call Center Challenges	45
4.3	Strategy for Outsourcing Inbound Call Center Services	50
4.4	Conclusions	57
5	Suggestions for Further Research	59
	References.....	60

List of Figures

Figure 1: Images from Call Centers	7
Figure 2: Impact of Unmanaged Change	26
Figure 3: Schematic Diagram of Call Center Technology.....	29

Definitions

Outsourcing is conducting certain business functions at a different location or contracting those functions out to another firm. (Bahrami, 2009)

Offshoring or outsourcing offshore is the outsourcing of business functions to a service provider who is located overseas as in the case of countries like, but not limited to, Malaysia, India, Singapore, and China.

Nearshoring is the form of outsourcing that involves outsourcing of business functions to a service provider who is located geographically closer than in the case of outsourcing offshore.

Multisourcing is a form of outsourcing that involves outsourcing of the business functions to multiple vendors or service providers.

Captive Center is the outsourcing of business functions to an organization that is set up for the client in an offshore location. The resources of this organization are set up and dedicated only for the use of the client organization. Even though the activities are performed offshore, they are not outsourced to a third party ("Call Center Glossary," 2003).

Business Process Outsourcing (BPO) is outsourcing of non-core business functions such as, but not limited to, payroll, back office and customer service to a third-party or a service provider ("Business Process Outsourcing," 2007).

Call Center is an organization which handles telephone calls (inbound, outbound or both), usually with some amount of automation (Target, 2007).

Contact Center is that part of an organization that manages customer contacts via e-mails, website inquiries, chats, and the like. It is usually part of an organization's overall customer relationship management endeavor.

eCommerce or electronic commerce refers to conducting business (purchasing, selling, and exchanging of goods and services) electronically (over the internet) ("Ecommerce definition and types of ecommerce," 2006).

Hosting involves the housing, serving, and maintaining of files for one or more web sites ("Hosting," 2003).

1 Introduction

It is no surprise how many jobs go offshore year after year, nor are the reasons for this phenomenon a surprise anymore. The idea of outsourcing is certainly not new. Hiring outside groups to do work that an organization either cannot do or chooses not to do for itself can be traced back hundreds of years (Corbett, 2004). The origin of outsourcing has its roots embedded in Adam Smith’s “competitive advantage” theory publicized in his 1776 book *An Inquiry into the Nature and Causes of the Wealth of Nations* (Burns, 2008). The outsourcing trend can be traced back to the Industrial Revolution era when manufacturing jobs were shifted to countries providing cheap labor. In the present scenario, globalization has opened up markets across the world leading to a more closely knit and interdependent world than ever before (Burns, 2008).

1.1 Research Objective

The primary focus of the research will be to design a strategy providing specific action steps to overcome and mitigate problems involved in an inbound call center. The strategy will provide direction on designing or selecting an inbound call center that does a good job of load balancing, minimizes heavy-traffic issues—such as call abandonments and busy signals, and the like. A brief elucidation on the concept of using tools—such as queuing systems, capacity management, and forecasting—will lead the research into the direction of providing specific solutions (action steps) to mitigate issues involved in inbound call centers.

Specific details pertaining to inbound call centers— such as, but not limited to, personnel planning, shift scheduling and rostering, demand modulation, and call routing

process —will be evaluated for the purpose of this research. Exploring the challenges involved in the inbound call center services outsourcing / offshoring industry will be one of the focal points of this research. While inbound call centers and the problems associated with them will be the main emphasis of the research, details will also be provided on the general problems involved in outsourcing implementations, as discussed above.

1.2 Background

The term ‘Outsourcing’ was invented by the information systems trade press in the late 1980s. It was coined to describe the growing trend of companies transferring their information systems to service providers (Greaver, 1999). However, outsourcing gained prominence in the early 1990s at a time when the U.S. economy faced a severe recession and the very competitiveness of its businesses was in question. At such a time, outsourcing helped companies streamline their processes and operations to regain their competitive strengths, resulting in a period of economic growth.

In the following years, organizations started using outsourcing extensively to improve their offerings to their customers. The outsourcing market witnessed a great deal of evolution over the last decade as a result of globalization inextricably linking the world’s major economies.

1.3 Current Scenario

Outsourcing is being considered critical to the growth and success of economies. *Harvard Business Review* lists it as one of the most important new management ideas and practices of the 20th century (Corbett, 2004).

Many of America's (and other countries') largest and most successful companies are also the world's top providers of outsourcing services. Companies—like, but not limited to, IBM, Unisys, UPS, and ARAMARK—are among companies that have benefitted from the economies of outsourcing, and have millions of employees in their outsourcing business.

There are many different types of outsourcing—such as offshoring, nearshoring, captive centers, and the like. There are also many different kinds of work outsourced. The following is not an exhaustive list of the kinds of work outsourced; however, many jobs outsourced can be broadly categorized into the areas below:

1. Technology Services Outsourcing
 - a. Software / Applications Development
 - b. eCommerce
 - c. Network / Infrastructure
 - d. Telecom
 - e. Web Development and Hosting
2. Business Process Outsourcing
 - a. Logistics
 - b. Equipment Management
 - c. Security
 - d. Supply Chain
 - e. Finance / Accounting Processes
 - f. Customer Relations / Customer Contact Management / Call Centers.

Other functions/services outsourced include human resources, healthcare, consulting, insurance, tax compliance, internal audit, facilities management and maintenance, janitorial services, management services (construction, hotels, and the like), documentation, utilities, secretarial services, manufacturing, news and media, production control, medical transcriptionists, and tele-marketing (DiMattia, 2004; Greaver, 1999). Engineering outsourcing has joined the trend of offshoring and has been slowly gaining popularity over the past decade and is expected to be a business worth \$150 billion a year by 2020 (Sehgal, Sachan, & Kysliger, 2010).

While the above list of jobs and some others can be offshored, four types of jobs are most vulnerable for offshore outsourcing (Bahrami, 2009; Garner, 2004):

1. Labor-intensive jobs, like telephone call centers and legal transcription services.
2. Information-related jobs—such as collecting, manipulating, and organizing information—like accounting, billing, and payroll.
3. High transparency jobs that require less or little information exchange between the service provider and the client, such as financial ratio analysis.

Most large companies today are willing to shift some of their jobs offshore.

Organizations outsource functions for a multitude of reasons that they consider as benefits or advantages. About 50% of the organizations that offshore cite staff skills over cost reduction as the primary reason to offshore; however, an overwhelming majority of 89% cite the actual benefit of the migration to be cost reduction (Michelle, 2005). A few other benefits include reduced time to market, tax benefits, risk management, and six sigma quality control system and process capabilities—such as Level-5 Capability Maturity Model (CMM) certifications of

leading offshore vendors (Rai, Maruping, & Venkatesh, 2009). To explore the benefits of low investment costs to their businesses, many companies now are relying on offshore software development and Business Process Outsourcing (BPO) of their customer support services.

China and India, two of the most populous countries with large and ever expanding human capital and knowledge bases, have emerged as the largest centers for offshored work. Also, global independence as a result of globalization coupled with augmented competition and a demanding economy have compelled many organizations to re-evaluate their business models, thus impelling the strategy of offshore outsourcing (Burns, 2008).

Companies from the United States continue to tap the talent and benefits of going offshore. Malaysia, Russia, Ireland, and Poland are few other countries that have also joined the offshoring trend. The Philippines has become a popular offshoring destination for services such as call centers and customer support work; China has come to dominate the manufacturing outsourcing industry.

It is easy, therefore, to come to the understanding that outsourcing and offshoring bring remarkable opportunities and savings to companies. But as companies and government agencies dive deeper into such efforts, they realize it is not easy money (McDougall, 2003). There are many ramifications—such as culture clashes between service providers and the client, failure to meet specifications and quality requirements of the client due to poor infrastructure, lack of required skill sets and coordination, and the like. There are also major business impacts—such as a severe performance gap between the implementation and results in expected performance that affects the overall profitability of the client—that follow the decision of organizations to outsource. Other than the above mentioned issues, there are few

challenges—such as difficulty with performance monitoring, high turnover leading to low productivity, information security, personnel planning as a result of high attrition, call routing, demand modulation, and the like—that are specific, but not limited, to the call center industry.

1.4 Call Center—An Introduction

A call center constitutes a set of resources—typically personnel, computers, and telecommunication equipment—which enable the delivery of services via the telephone (Gans, Koole, & Mandelbaum, 2003).

The recent decades have witnessed an explosive amount of growth in call center outsourcing. Call centers are an increasingly important part of today's business world employing millions of agents across the globe and serving as a primary customer facing channel for firms in many different industries (Aksin, Armony, & Mehrotra, 2007). This is due to the commendable increase in the number of companies that provide services via the telephone (Garnett, Mandelbaum, & Reiman, 2002).

Companies with customer contact—private companies, as well as government and emergency services—have reengineered their infrastructure to include from one to many call centers, either internally managed or outsourced. Most businesses, in fact virtually all businesses, are interested in providing information and assistance to existing and prospective customers. For many companies—such as, but not limited to, airlines, retail banks, and credit card companies—call centers and their contemporary successors, contact centers, have become the preferred and prevalent means to communicate with their customers (Gans, et al., 2003).

In recent years, the decreased costs of telecommunications and information technology, combined with the availability of cheap labor in developing nations, have together led to an increase in the offshoring of call center services.

Call centers, whether outsourced within the country or offshored, can be categorized along many dimensions. The various functions provided by call centers—like, but not limited to, customer service, help desk, emergency response services, tele-marketing services, and order taking—vary greatly in size and geographical dispersion. The working environment of a call center can be imagined as a room with numerous cubicles in which people with earphones sit in front of computer terminals and provide services over the telephone.



Figure 1: Images from Call Centers ("Call Center," 2010; Call Center in Brazil," 2009)

Call centers typically handle either inbound calls or outbound calls or can handle traffic from both directions. Inbound call centers specialize in handling incoming calls initiated by outside callers calling into a call center. These calls pertain to functions that relate to, but are not limited to—customer service, help desk services, reservations, and sales support. Outbound call centers handle outgoing calls, calls that are initiated from within a call center. These outgoing calls pertain to certain aspects of business such as tele-marketing, survey businesses, and the like (Gans, et al., 2003). Some inbound call centers also initiate

outbound calls to high-value customers who have abandoned their calls before being served. However, these instances are not too frequent. Given the volume of work involved, call centers are very labor-intensive operations, with the cost of staff members who handle the phone calls (also known as “agents”) typically comprising 60-80% of the overall operating budget (Aksin, et al., 2007).

Also, call center managers are expected to provide high service quality and deliver low operating costs. As a result, to meet these conflicting objectives, organizations outsource their call center services to offshore locations or countries, where they benefit from the availability of abundant low-wage, English-speaking work forces in addition to the reduced information technology and telecommunications costs. Hence, today telephone call centers have become an integral part of many businesses, and their economic role is significant and growing.

1.5 Trends in Outsourcing

There have been many predictions made about the outsourcing market. One common prediction noticed in many sources has been the continued growth of outsourcing in future years as well. The following are some of the trends that have been predicted for the future:

1. The market for mainstream business process outsourcing (BPO) expenditure is likely to grow by 10 -20% a year from \$140 billion in 2005 to potentially \$350 billion by end of 2010. It is expected that this expenditure on BPO will focus on areas such as human resource functions, procurement, back office administration, call centers, legal,

finance and accounting, customer facing operations, and asset management (Lacity, Willcocks, & Rottman, 2008).

2. Although the IT Outsourcing (ITO) and BPO markets are growing, the average size of individual contracts and the duration of these contracts are decreasing. This is as a result of client organizations pursuing multi-sourcing, where the client organizations sign up contracts with more clients instead of relying on one good client. This helps them access the best-of-class suppliers and mitigates the risks of reliance on a single supplier (Lacity, et al., 2008).
3. The passage of the Central American Free Trade Agreement is expected to further open up ITO and BPO opportunities in countries other than India and China such as Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and the Dominican Republic (Lacity, et al., 2008).
4. The demand for near-shoring (outsourcing work to a supplier located in an adjacent country), is likely to increase. Nearshoring has multiple benefits to it—such as lower travel costs, fewer time zone differences, and closer cultural compatibility—as compared to offshore outsourcing. Examples of most attractive nearshore destinations could be Canada to the US, the Czech Republic, Poland, and Hungary to Western Europe, and the like.
5. Rural sourcing will meet the needs of organizations who aim to lower their labor costs while staying within the country. Within the United States, about 60 million people (20% of Americans) live in 80% of America's landmass classified as "rural" (Lacity,

et al., 2008). As a result of a lower cost of living in these rural areas, suppliers pay lower salaries to employees as compared to their urban counterparts, helping companies lower their overall costs.

6. As environmental concerns continue to grow, companies seek to reduce their corporate carbon footprint. Therefore, there is a possibility that organizations will show interest in taking up outsourced services that deliver “Green IT” that covers a broad range of measures—such as energy efficient IT solutions to reduce corporate energy consumption, particularly in high energy use areas such as data centers—aimed at reducing the environmental impact of corporate IT use (Edgell, Meister, & Stamp, 2008). Hence the demand for service providers with energy-efficient best-practice standards and processes will continue to rise.

2 Literature Review

A wealth of literature is available on the topic of outsourcing and offshoring. A majority of the literature available on outsourcing focus on areas that can be broadly categorized into reasons for outsourcing/benefits of outsourcing and the challenges or risks involved in outsourcing.

There is also a wide collection of literature on the economic impacts of offshoring and outsourcing of various jobs on the United States economy and other economies.

There are multiple sources that provide information on the topic of call centers and their operations, but there is a limited amount of literature present on the specific challenges involved in call center management and the ways to mitigate them. Valuable inputs provided by many authors have contributed to this research (Batt, Doellgast, Kwon, & Agrawal, 2005; Gans, et al., 2003; Garnett, et al., 2002; Whitaker & Krishnan, 2005).

The various other references used for this research include books, journal articles, electronic articles, and web pages. Many authors provide details on the challenges involved in going offshore (Batt, et al., 2005; Bhutada, 2009; Desouza, 2008; Jones, 2009; Lacity, et al., 2008; McCray, 2008; McDougall, 2003; Michelle, 2005; Perkins, 2003; Rai, et al., 2009; Sehgal, et al., 2010; Trefler, Rodrik, & Antràs, 2005). Some others give details about the benefits of offshore outsourcing (Bahrami, 2009; Banerjee & Williams, 2009; Kedia & Mukherjee, 2009; Lacity, et al., 2008; Rai, et al., 2009). The future trends of the outsourcing industry are the focus of many authors' work (Batt, et al., 2005; Edgell, et al., 2008; Lacity, et al., 2008).

Some authors present all three aspects and also provide suggestions for effective implementation of offshore projects in their literature (Batt, et al., 2005; Burns, 2008; Desouza, 2008; Jones, 2009; McCray, 2008). Valuable information on the call center industry is presented by numerous authors (Aksin, et al., 2007; Gans, et al., 2003; Garnett, et al., 2002; Whitaker & Krishnan, 2005).

The various literature findings on the subject are organized in a way so as to set the stage for presenting the framework/strategy for overcoming problems with outsourcing implementations in call centers. The various topics discussed in the literature review chapter in the order of their occurrence will be the reasons/benefits of outsourcing (general), the risks of outsourcing (general), followed by the specific capabilities and challenges involved in inbound call centers.

2.1 Reasons/Benefits of Outsourcing

There are a whole host of reasons why businesses decide to outsource or go offshore. The decision by organizations to outsource is triggered not only by lower labor costs but also by taking into consideration many other aspects. Lacity et al., offer good examples to prove this, in their article “Global Outsourcing of Back Office Services: Lessons, Trends, and Enduring Challenges”, (Lacity, et al., 2008). They write:

When considering an offshore destination for IT work, some CIOs did not just consider the best location from an IT perspective in terms of IT costs and IT services. Instead, these CIOs intelligently asked, “Does the business have or want to have a significant presence in the country?” Similarly, a CIO from a hardware company selected China because he knew his company wanted to sell their products there. Another U.S. CIO chose Canada because he wanted suppliers in close

physical proximity to their external customers for rapid deployment.
(p. 17)

Moreover, executives recognize the need to offshore many functions such as their back offices and other inefficient processes and functions not just because these functions are under-managed by their staff, but more importantly to reap the benefits of the rapidly increasing supplier capabilities in countries around the world.

Bahrami and Jones provide further details on the other advantages that make outsourcing a popular option for organizations (Bahrami, 2009; Jones, 2009):

1. **Ability to Focus on Core Business:** Organizations can devote more resources and time on their core business functions and core competencies by outsourcing their support functions either within the country or to offshore locations.
2. **Cost Advantage:** Highly skilled, educated, and cheaper work forces with good English-speaking capabilities are advantages offered by developing countries to attract more offshore contracts. Because of lower offshore production and labor costs, companies enjoy up to a 70% cost advantage. Although additional transaction costs and other costs might be involved in other activities—such as, but not limited to, monitoring, training, and traveling—the overall cost savings experienced by companies exceeds the costs involved.

Moreover, firms that offshore their production benefit from location economies by dispersing individual value creation activities to those locations around the world where they can be performed most efficiently and effectively. Not only can this strategy help firms lower their costs of production and achieve a low-cost market

position but also they can differentiate their product offerings from their competitors. This not only reduces the company's overall production costs but also leads to higher profits for shareholders.

3. **Improving the Economy:** The profits realized by companies as a result of their cost savings allow firms to expand their operations and invest in new businesses or new lines of production, thus creating new jobs, goods, and services for consumers. In addition to this, these cost savings can be invested in providing further training to employees and in research and development, which would result in increasing the pace of innovation, which in turn could result in more profits. Also, as a result of international trade, foreign companies will compel U.S. firms to develop new products and improve their management techniques, thus helping the economy. Because companies can offer their goods and services at lower costs as a result of their lower offshore production costs, this may help in moderating inflationary pressures and lead to more consumption. Lower prices can also help in making U.S. goods and services more competitive in world markets, thus resulting in increased exports, and therefore contributing to stimulating and improving the U.S. economy and those of other developed nations that invest in international trade or participate in offshore outsourcing.
4. **Competitive Advantage:** In today's competitive world, the strategy of outsourcing where applicable has become imperative and a matter of survival. Any organization that realizes location economies by dispersing its value creation activities is said to

have a better competitive advantage *vis-a-vis* a firm that bases all its value creation activities in a single location (Hill, 2007).

5. Time Zone as an Advantage: Most service providers in offshore locations are willing to work through their night time, making the workday a 24-hour schedule for the client organization. Bahman Bahrami gives a great example to explain this scenario (Bahrami, 2009):

Lucent Technologies has established a laboratory in India that allows Lucent's employees to work around the clock. When employees in the U.S. finish their shift in the evening, co-workers in India start work on projects. As their workday ends, those projects return to U.S. co-workers in a continuous daily cycle. (p. 216)

Another scenario is when offshore service providers work during the day time work hours of the client organization, especially in the case of call centers and BPOs. Regulations prevailing in some advanced countries prevent their employees from working 24/7/365. However, employees in offshore locations who have the advantage of being in a different time zone can continue working during the U.S. nighttime. This process substantially increases the overall productivity and speed of work and facilitates timely communication, feedback, and problem solving between the two organizations, thus enhancing the quality of service provided (Kedia & Mukherjee, 2009). Kedia and Mukherjee also quote the following excellent example elaborated earlier by Thomas Friedman on how exactly this works (Kedia & Mukherjee, 2009):

Another factor, added Rozman, was that multinationals that were depending on Indian firms alone to run their backrooms 24hours a day were getting the third team for eight hours, since the best Indian engineers didn't want to work the late-night shift—the heart of America's day. By creating an outsourcing center in Montevideo, Tata

could offer its clients its best Indian engineers during India's day (America's night) and its best Uruguayan engineers during America's day (India's night). (p. 256)

Hence, the issue of time zones can be considered as both a benefit and an issue, depending on the terms of contract between the client and service provider. Therefore, the client can take advantage of the possibility to convert this issue into a benefit and make it work in the client's favor.

6. Improve Functional and Technical Quality: Most organizations outsource non-core functions and do so to offshore vendors who have the strategic resources, capabilities, and the technical and functional expertise in the outsourced function. Therefore, one of the advantages the client company has with its outsourced function is the improvement in the quality of work, which might not be the case otherwise.

There are many such advantages the client organizations reap as a result of their decision to outsource, such as, but not limited to, an increase in staffing flexibility, the ability to focus on in-house staff on higher value work, improved speed and success in other operating areas, and the flexibility to tighten controls.

Although formal and informal barriers to trade and foreign investment persist along with the economic and political risks, organizations are encouraged to invest in outsourcing and offshoring due to the advantages that come with outsourcing offshore. Hence, not only are firms and multinationals merely responding in an efficient manner to changing conditions in their operating environment, but also all available evidence indicates that globalization and outsourcing has been increasing and will continue to do so despite its many shortcomings.

Also, most or many of the inadequacies that are associated with offshoring can be thwarted if an efficient strategy is adapted.

2.2 Challenges / Risks of Outsourcing

Outsourcing is considered to be a double-edged sword as it poses as many or more challenges as the number of advantages and opportunities that come with the decision to outsource. Many authors believe that there are numerous challenges with global outsourcing (Bhutada, 2009; Burns, 2008; Desouza, 2008; Jones, 2009; Lacity, et al., 2008; McCray, 2008; Perkins, 2003). They offer their view on the various risks, problems, issues, challenges, and disadvantages associated with the outsourcing (especially offshore) industry in their writings.

Outsourcing comes with a dizzying set of evolving choices in terms of suppliers, sourcing locations, service offerings, and models of engagement. Therefore, before making a decision it is important for executives in organizations to conquer a significant learning curve and build key in-house capabilities in order to successfully exploit outsourcing opportunities. Organizations that fail or are significantly slow with this learning process will continue to face the high-risk of being ineffective with making margins due to hidden costs and ineffective contract monitoring and management (Lacity, et al., 2008).

The numerous other significant challenges awaiting the world of outsourcing include language, culture, knowledge transfer to suppliers while protecting intellectual property (IP), knowledge retention, ethics, norms of behavior, distance and time zones, infrastructure,

privacy and security, skill set / quality, objectivity, geopolitical climate, labor backlash, communication, end-user resistance, and governance.

There is wide agreement among most authors on the above. However, the understanding based on this study of the works of all the above-mentioned authors has helped in identifying the top seven challenges/problems associated with outsourcing (offshoring).

These seven challenges are explained in detail as follows:

1. **Privacy and Security:** As offshoring involves carrying out business in multiple countries, it is important to realize that laws differ from country to country and the service provider's country may not have the laws for privacy or IP as in the country of the client organization. Therefore, there is a need to identify and determine the extent to which any intellectual property developed or taken offshore will be protected in the courts. Also, many low-cost countries follow U.S. and European laws to differing degrees (Perkins, 2003). This is a cause for concern for companies assuming that the service provider's country follows the laws of the country of the client's origin and those who do not devote necessary time and attention to the need for evaluating security issues. But unfortunately most companies or organizations make the mistake of ignoring the importance of the need for accessing security, with the exception of one class of organization—organizations that have been burnt by security breaches. Kevin Desouza provides the following example of the remark made by a manager (Desouza, 2008):

No one really has the time, patience, or resources, to spend a few days evaluating the security issues associated with an agreement... Most of our time is spent working out details such as the financials, the project

management plans, the personnel and public relations dimensions...Unless there are glaring security issues, most outsourcing agreements have the standard boiler plate text on security...you know...the non-disclosure agreements, that data and information protection clauses, etc. (p. 288)

There have been multiple security issues and incidents that have been experienced due to this lackadaisical attitude of managers or organizations. Kevin C. Desouza, in his article “The Neglected Dimension in Strategic Sourcing: Security”, has cited a few good examples of such incidents that occur in offshoring or outsourcing sites such as counterfeiting by the service provider, which includes compromising software artifacts through installation of malicious code, stealing and/misuse of sensitive data, compromise on security program and practices, and the like.

2. Culture: Cultural factors, though they are invisible forces, exert a powerful influence on work related attitudes and values and therefore are often cited as major barriers to successful outsourcing in some offshore locations/destinations (Jones, 2009).

Cultural clashes between the client and the service provider can occur at two different levels: corporate culture and national/regional culture (in the case of offshoring).

Organizations differ in the way they function in terms of speed, style, decision making, and organizational structure. So, when two different organizations try to function together to achieve one goal, there might arise clashes in their functional styles resulting in differences of opinions, inflexibility, lack of understanding, and leading to either or both organizations taking extreme positions creating tension and distrust between the two parties involved.

National/regional cultures include other related issues—such as language barriers, communication, punctuality, traditions, customs, and norms of behavior. A postmortem of many failed projects points out to relational factors such as communication challenges and misunderstandings due to cultural differences as the key reasons for cost escalation and client dissatisfaction (Rai, et al., 2009). Geert Hofstede conducted a research of 116,000 IBM employees in 40 countries, in which he discovered that managers and employees from different cultures vary in six dimensions—power, distance, individualism vs. collectivism, quantity vs. quality of life, uncertainty avoidance, and long-term vs. short-term orientations. These were six dimensions of cultural differences that would lead to clashes between a client and a service provider (Geert Hofstede, 1980).

The potential problems arising with culture are poor communication and lack of cohesion. The non-verbal cues that come with written communication due to the inability to view facial expressions, make written communication one of the greatest challenges faced by call center managers. Also, with written communication on which most transactions are based in an offshore setup, the styles of writing may differ from country to country and culture to culture (Jones, 2009).

Another key problem that can be attributed to lack of communication is the lack of understanding of post-contractual processes, by either or both of the parties entering into a contract. Sehgal et al., cite a great example to explain this in their article “The Elusive Right Path to Engineering Offshoring” (Sehgal, et al., 2010). They quote:

A German machine tool company recently attempted to design, entirely in Europe, a product destined for the Brazilian market. As a result, drawings, service manuals, and equipment tags were improperly translated. One instruction was supposed to read, "Advance the ram," but was translated into Portuguese as "Squeeze the goat." That mistake and many similar mistakes ended up costing the German company dearly in reworking tags, text boxes, callouts, and service manuals and hindered sales of the new product in Brazil. (p. 1)

This is a classic example of how a lack of proper communication and the failure to understand post contractual details leads to wasteful and expensive errors.

3. Infrastructure: Many offshore countries lack the network bandwidth for fast communication; many experience intermittent electrical outages; and many countries lack fire fighting services. These and other problems arising due to infrastructure issues are discussed in the works of Bhutada, Perkins, and Rothman (Bhutada, 2009; Perkins, 2003; Rothman, 2003). Perkins cites a great example of his experiences in the Philippines when he was the CIO of Dole Foods. He explains, giving an example, how lower-cost countries do not have the capabilities as seen in highly industrialized countries. In his example, he explains how people in the Philippines would steal the telephone wires to sell copper, due to which they had to protect and remove some equipment from their sites. Also, in Honduras, they had to use an uninterruptible power supply (UPS) to keep their computers running during power outages and frequent blackouts (Perkins, 2003).

Therefore, clients need to be prepared for these kinds of alternate mechanisms to support their operations in countries that are not as well equipped with infrastructure as the highly developed nations are.

4. **Knowledge Transfer and Knowledge Retention:** These are identified to be two different issues that can be woven into one group. Outsourcing functions may ultimately mean a loss of in-house knowledge to some extent, leading to the fear that there would be loss of control and weakening of business for the client (Burns, 2008). This concept is explained in further detail in their writings by Jones and Lacity, et al. (Jones, 2009; Lacity, et al., 2008). In their view, knowledge transfer is one of the biggest impediments to the success of offshore outsourcing projects. With offshoring, since clients do not transfer knowledgeable employees to the supplier (as is typically done in large-scale domestic outsourcing), the cost of training offshore supplier employees and the threat of loss of IP due to supplier turnover is considered high.

5. **Distance and Time Zone:** The geographical dispersion of the offshore locations from the client sites directly impacts the level of communication in multiple ways. Distance affects all aspects of communication and control. The amount of face-to-face and one-on-one communication and coordination required are not possible. As a result of being separated by thousands of miles, there is a lack of cohesion between the client and the service provider teams. Distance therefore limits channels of communication to electronic means which are less rich than face-to-face communications.

Moreover, with distance comes the issue of the cost and length of travel involved for clients when travelling to service provider offshore locations. This may limit the frequency of client supervision and physical interaction with the service providers and their teams, resulting in reduced one-on-one training, problem solving, and the like.

Furthermore, issues like visa approvals may limit travel for either or both the client and the service provider.

Also, as a result of the dispersion of locations geographically, comes the issue of time zone variations. Time zone differences introduce more complications for the communications process. Normal work hours in some parts of the U.S. do not overlap with normal work hours in China or India. This requires either or both locations to compromise, as a phone call, conference call, or video conference usually poses impositions for one of the parties (Jones, 2009).

However, as discussed earlier, time zone differences can also be considered to be an advantage to some organizations (see p.15).

6. **End-User Resistance:** Customers or end users who are the recipients to offshored services, especially those that involve customer interactions as in the case of call centers, may not welcome the change. However, service providers take all necessary care to provide training to their employees with regards to accent neutralization, verbal and written communication capabilities, and other necessary requirements. If the switch over from client to service provider is performed smoothly, customers or end-users may not resist it as much as if the transition is not smooth.
7. **Labor Backlash:** Outsourcing creates uncertainty for existing employees in client organizations, causing increased attrition problems, thus resulting in other problems such as, but not limited to, reduced efficiency, knowledge transfer, and knowledge retention. Also, with the offshoring of service jobs, there is a sense that OECD

(Organization for Economic Co-operation and Development) countries are in danger of being overtaken by China, India, and a number of other developing countries that are destinations for service offshoring, due to their infinite capacity to absorb OECD technologies and management strategies, to improve on them, and ultimately to compete head-to-head with the OECD (Trefler, et al., 2005).

However, this argument is flawed. On the contrary, because of the lower offshore production and labor costs, the prices of goods and services in the OECD countries will be lower. Lower prices may help to moderate inflationary pressures and lead to more consumption. Also, lower prices make goods and services more competitive in world markets, thereby increasing the exports of the OECD countries. Increasing consumption and increased exports, in turn, will stimulate the economy of the OECD nations and will thus create new and better jobs. This is consistent with the economic theory that outsourcing can improve the average purchasing power of the OECD countries (Bahrami, 2009).

There are other concerns expressed in various readings, with regards to offshoring as mentioned earlier—such as the geo-political climate, skill sets and quality of work, objectivity, and lack of governance.

Issues regarding skill set/quality of work have been expressed in the writings of some authors like Burns and Michelle (Burns, 2008; Michelle, 2005). But, some other authors suggest that developing countries are major attractions to the developed countries as offshore locations, not just because they offer cheaper labor but also because they offer skilled cheaper labor as compared to their own countries (Lacity, et al., 2008). If skill set and quality of work

were really matters of concern, the trend of offshoring would witness a downward slope/trend but it does not seem to do so, not now, nor is it predicted to in the near future.

Geo-political climate is another issue discussed in a few readings. Bart Perkins (2003) in his article “A Reality Check on Going Offshore” discusses how the war on terrorism could hurt the ability of offshore providers to operate. He contradicts his own statement by commenting on how 9/11 proved that developed nations like the U.S. are not immune to terrorism either (Perkins, 2003). Therefore, since there is equal risk of terrorism all over the world, it will definitely not hurt client organizations to spread the risk of operation and offshore their businesses. However, the client will have to make a decision to offshore, keeping in mind the internal cultural clashes due to political interests, which are witnessed in developing countries like India and China. If these clashes result in shut downs and other intense situations that might hurt the business performance, those might be issues that the client might want to consider before deciding to go offshore.

2.3 Business Impact

One of the important issues that businesses face with their decision to outsource or offshore, is the execution or implementation of change, leading to poor change management and governance. The extent to which the outsourcing effort is considered successful or not depends on the level of success the organization achieves with its implementation (McCray, 2008). It is also important for client organizations to ensure that their teams devote the required time and resources to post-contractual issues without having a lackadaisical attitude. Even if the client puts a retained team in place to manage the outsourcing implementation and

ongoing operations, a lack of necessary prior and on-going training to the staff responsible for governance, may also lead to a state of lack of governance (McCray, 2008).

Unmanaged change creates a severe gap in performance during the outsourcing implementation. This gap is the difference between expected and actual performance causing significant degradation in the expected business case during implementation and beyond. It can affect the staff effectiveness, organizational and procedural alignment, governance readiness, performance, growth, and to some extent the financial stability of the organization. The graphic below illustrates the impact of unmanaged changes in outsourcing implementations (McCray, 2008).

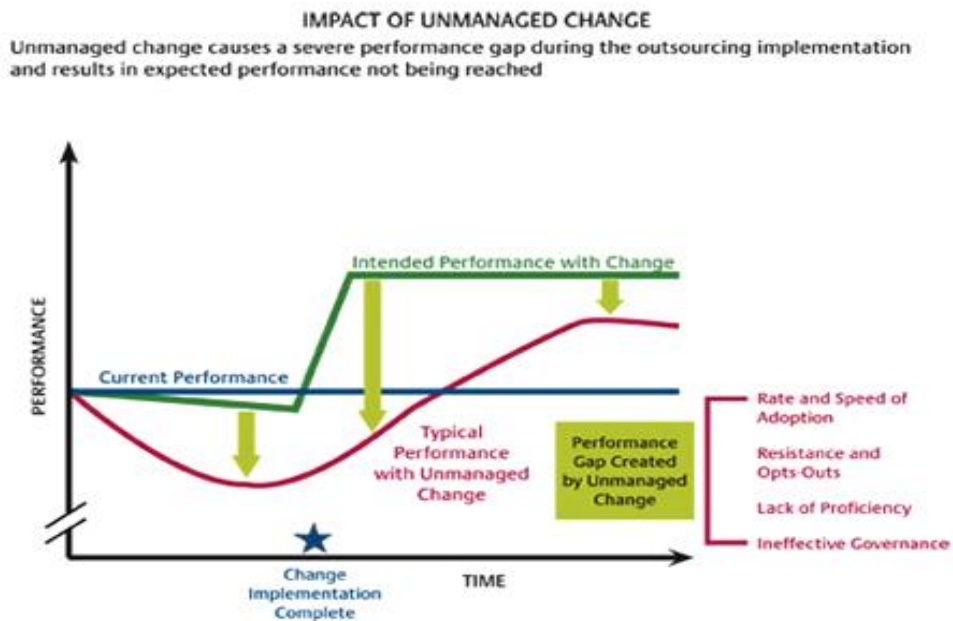


Figure 2: Impact of Unmanaged Change (McCray, 2008)

Most of the challenges/issues mentioned above can be dealt with and can be converted to advantages. Even if the issue cannot be completely negated, many of the above mentioned problems can be avoided if proper care is exercised.

So companies that choose not to outsource give four reasons as the primary factors that influence their decision against outsourcing or offshoring of their businesses. Businesses that avoid outsourcing due to the possibility of potential damage to their brand name are 43% of businesses; 22% of businesses find the cost savings insufficient; a majority of 68% of businesses do not outsource because they perceive the function to be their core competence; and in spite of the number of risks involved, only 32% consider risk factors influencing their decision (Michelle, 2005).

2.4 Inbound Call Centers - Capabilities and Challenges

The primary function of an inbound call center is to receive telephone calls that have been initiated by customers. Inbound call centers can be physically housed across several different locations, time zones, or countries, and make up a large and growing part of the global economy.

A large call center serves thousands of calls per day, each of which demands a response within seconds. This requires a large workforce with hundreds of agents that can cater to the numerous calls per hour, with agent utilization levels averaging between 90% to 95% (Gans, et al., 2003). Call centers that focus on simple transactions—such as telemarketing, reservations, or credit card handling—require employees with relatively low

skills, as compared to call centers that provide service and sales for products that entail some degree of complexity.

Irrespective of the services provided by call centers, the service quality and operational efficiency is expected to be exceptional. But most call centers do not consistently achieve such simultaneously high levels of service quality and efficiency due to a multitude of reasons, some of which will be discussed as a part of this research.

To understand the problems or challenges associated with inbound call centers, we first need to understand the functioning of an inbound call center. Based on this understanding we will derive an explanation to the problems that are faced by these call centers.

The functioning of an inbound call center with customers making phone calls is explained by Aksin et al. (2007). When a customer calls an inbound call center, various call handling and routing technologies will attempt to route the call to an available agent. If an agent is available, the call is forwarded or routed to that agent. However, agents are normally busy answering calls. Therefore, there is no agent available to immediately answer the call. Then the customer is put on hold and is placed in a queue to be answered by the next available agent. The customer may either wait patiently to be answered, or may abandon the queue by hanging up, either immediately after being placed on hold or after waiting for some amount of time without receiving service. Customers, whose calls are answered either after a wait period or immediately, will speak with the agent for some random amount of time, after which either the call will be completed or the customer will be “handed off” to another agent or queue for further assistance.

Gans, et al., explain the functioning of an inbound call center and the technicality behind how calls in an inbound call center are handled. They do so by means of an example that modifies a schematic diagram explaining the technology involved in an inbound call center as below (Gans, et al., 2003):

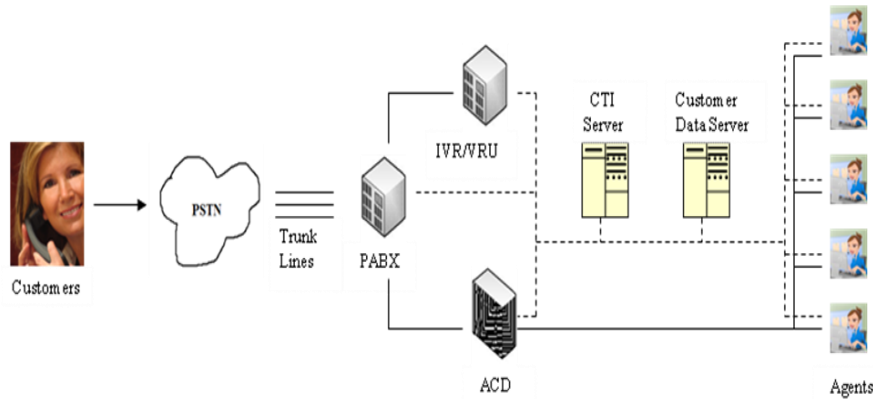


Figure 3: Schematic Diagram of Call Center Technology

Consider customers in the U.S. calling a call center toll-free “800” number. The long-distance or *public service telephone network* (PSTN) company that provides the 800 service knows two vital pieces of information about each call: the number from which the call originates, often called the *automatic number identification* (ANI) number; and the number being dialed, named the call’s *dialed number identification service* (DNIS) number. The PSTN provider uses the ANI and DNIS to connect callers with the call center.

The call center has its own, privately-owned switch called a *private automatic branch exchange* (PABX or PBX), and the caller’s DNIS locates the PABX on the PSTN’s network. If there is more than one call center on the network – both reachable via the same 800 number – then a combination of the ANI, which gives the caller’s location, and the DNIS may be used to route the call. For example, a caller from Atlanta may be routed to a Dallas call center, while another caller from Chicago – who calls the same 800 number – may be routed to a center in North Dakota. Conversely, more than one DNIS may be routed to the same PABX. For example, the call center may maintain different 800 numbers for domestic and international calls and have both types of calls terminate at the same PABX.

The PABX is connected to the PSTN through a number of telephone lines, often called *trunk lines*. If there are one or more trunk lines free, then the call will be connected to the PABX. Otherwise, the caller will receive a busy signal. Once the call is connected it may be served in a number of phases.

At first, calls may be connected through the PABX to an *interactive voice response* (IVR) that queries customers on their needs. Then through continued interaction with the IVR customers may complete service without needing to speak with an agent.

Customers may also communicate a need or desire to speak with a *customer service representative* (CSR), and in this case calls are handed from the IVR to an *automatic call distributor* (ACD). An ACD is a specialized switch, one that is designed to route calls, connected via the PABX, to individual CSRs within the call center. Modern ACDs are highly sophisticated, and they can be programmed to route calls based on many criteria.

Based on the status of the CSRs that are currently idle and available to take a call, the incoming call may be routed to the “best” available agent. If no suitable agent is free to take the call, the ACD may keep the call “on hold” and the customer waits until such an agent is available.

Customers that are put on hold are typically exposed to music, commercials, or other information. Delayed customers may judge that the service they seek is not “worth” the wait, become impatient, and hang up before they are served. In this case, they are said to *abandon* the queue or to *renege*. Customers that do not abandon are eventually connected to a CSR.

Once connected with a customer, agents can speak on the telephone while, at the same time, they work via a PC or terminal with a corporate information system. In large companies, such as airlines and retail banks, the information system is typically not dedicated to the call center. Rather, many call centers, as well as other company branches, may share access to a centralized corporate information system.

Computer-telephone integration (CTI) “middleware” can be used to more closely integrate the telephone and information systems. CTI can also be used to automatically display a caller’s customer record on a CSR’s workstation screen. By eliminating the need for the CSR to ask the caller for an account number and to enter the number into the information system, this so-called “screen pop” saves the CSR time

and reduces the call's duration. If applied uniformly, it can also reduce variability among service times, thus improving the standardization of call handling procedures.

Finally, the service need not end with the call. Callers who are blocked or abandon the queue may try to call again, in which case they become *retrials*. Callers who speak with CSRs but are unable to resolve their problems may also call again, in which case they becomes *returns*. Satisfactory service can also lead to returns. (p. 5-7)

The quality of service is considered to be a function of both how long the customer must wait to receive service and the value that the customer attributes to the information and service that is received. This can be achieved only by means of having the right mix of staffing and training. That is, the call center manager needs to deploy the right number of agents to handle the call volumes and must provide the necessary training to his agents to have the right skill sets required to handle customer queries and to provide service as desired.

This brings us to the challenges faced by call center managers as they are increasingly expected to deliver both low operating costs and high service quality. Call center managers face the challenges of operating an inbound call center—such as, but not limited to, deploying the right number of staff members with the right skill sets to the right schedules in order to meet uncertain, time-varying demands for service, forecasting traffic, acquiring capacity, deploying resources, and managing service delivery—to be able to meet these potentially conflicting objectives.

Many researchers have provided varied perspectives on the issues involved in call center management. Aksin, et al., present a multi-disciplinary, operations management perspective on solving issues involved in call centers, while Batt et al., perform their analysis by means of comparing mean characteristics and Garnet et al., provide their analysis by

assuming that the customers' patience is exponentially distributed and the system's waiting time capacity is unlimited (Aksin, et al., 2007; Batt, et al., 2005; Garnett, et al., 2002). There are many other sources available that provide more in-depth information on the subject of the issues involved in call centers in their own perspectives. Other sources also have contributed to this research (Gans, et al., 2003; Whitaker & Krishnan, 2005).

2.4.1 Call Center Challenges

Call center managers are faced with the responsibility of handling resource acquisition—determination of how many agents to hire at what times based on a long-term forecast of demand for services—and resource deployment—the scheduling of an available pool of agents for a given time period based on detailed short-term forecasts. The other set of responsibilities include, but are not limited to, real time call routing, call forecasting, personnel planning, demand modulation, and target setting (Aksin, et al., 2007).

These responsibilities become challenges when managers fail to act at the right time, or if they do not have the necessary resources to act as per requirements. Each of the above mentioned responsibilities are discussed in detail to explain how they become challenges for managers.

1. **Resource Acquisition:** Managers at call centers need to make decisions pertaining to resource acquisition well in advance, which may range from several weeks and sometimes several months ahead of time. The reason for this is that resources need to be trained in multiple areas—such as concepts, applications, the services they provide, and accent neutralization (in case the service provider is offshore)—before they are

allowed to handle customer calls. Because the rate of absenteeism and turnover in call centers is high, the manager should account for this and provide enough lead time for resource acquisition. Managers are also expected to support their resource acquisition decisions using models that explicitly account for random attrition and absenteeism. Another criterion that affects the acquisition decision of managers is the volume of calls expected or the amount of demand for services. This takes us to our next issue that managers at call centers face, the challenge of call forecasting.

2. Call Forecasting: The purpose of call forecasting is to determine the expected number of incoming calls and the approximate amount of service time required to serve these calls, both of which vary from time to time and call to call respectively. Call forecasts can be created for a variety of time periods, which can range from monthly (to support resource acquisition decisions) to short time frames—such as 15, 30, or 60 minute periods (to support resource deployment decisions). There are multiple models that can be used for forecasting. Weinberg et al., propose a multiplicative model for forecasting Poisson arrival rates for short intervals, which is typically 15, 30, or 60 minutes in length, with a 1-day lead time. This model produces forecasts of Poisson arrival rates on an intra-day interval basis, and these results can be used in conjunction with performance models and agent scheduling algorithms to help call center managers in forecasting (Weinberg, Brown, & Stroud, 2007). There are many more models and empirical studies relating to forecasting developed by other statisticians and mathematicians (Shen and Huang, 2007; Soyer and Tarimclilar, 2007; Taylor, 2007). The success and effectiveness of each of these models and methods vary depending on the amount of lead times and workloads involved.

Therefore, it is for the call center manager to determine which method might be best suited for their company.

3. **Resource Deployment:** Decisions pertaining to resource deployment are made based on call forecasts and the availability of resources. Resource deployment decisions in a call center aim at reducing or minimizing costs while aiming to achieve the customer waiting time objectives at the same time. That is, depending on the amount of calls arriving at the call center, the time of arrival (as estimated by the call volume forecasts and the forecasted mean service times), and the speed with which the call center seeks to serve its customers (customer wait time). After the call center manager determines the goals pertaining to customer wait time, queuing performance models can be used to determine the number of resources to be deployed. Based on the call arrival estimates and employee deployment decisions, shift schedules are established. The actual performance of the resources deployed then depends on the operational problem of allocating incoming calls to the resources dynamically, known as the call routing problem (Aksin, et al., 2007).

4. **Call Routing:** The issue of call routing is dependent on various other aspects of call center management such as staffing and scheduling. Call routing deals with assigning incoming calls to specific agents (or pools of agents) and then scheduling calls when several calls are waiting for the same agent pool. In a multi-skill call center, the problem of call routing is addressed by means of skills-based routing. Few researchers recommend the use of deterministic linear programming, diffusion, or fluid approximations to overcome the problem of call routing and other associated

problems in large call centers (Armony & Mandelbaum, 2008; Gurvich & Whitt, 2006; Harrison & Zeevi, 2004). While some other researchers propose the use of simulation in combination with optimization (Atlason, Epelman, & Henderson, 2003).

5. Demand Modulation: The problem of demand modulation is inherent with any service based organization that has to deal with customers. Many call centers are faced with a lot of time-variation and unpredictable demand. The issue of time-variation can be solved by adjusting schedules and staffing levels during peak and lean demand periods. But call centers with unpredictable call volumes are exposed to another major issue of having limited flexibility in adjusting staffing levels and this may lead to situations of over- or under-staffing, at least temporarily (Aksin, et al., 2007). Moreover, the overriding fact that call center managers need to remember is that customers most of the time are impatient and expect to be served immediately or with the least amount of waiting times. Also, since long waiting times lead to abandonment which in turn leads to loss of good will and even customer loss, it is important that call center managers address this concern.
6. Human Resource Issues: All of the above mentioned issues, directly or indirectly affect the employees in a call center. Conflicts between costs and quality, between flexibility and standardization, and between constraining and enabling job design begin to arise (Houlihan, 2002). Employees of call centers are monitored both quantitatively (calls per hour, average call times, time between calls, and the like) and qualitatively (content, style, adherence to policies, and the like) (Aksin, et al., 2007). These are conflicting targets that create pressure on employees. Moreover, the

intensity of monitoring performance through target settings creates additional pressure on call center employees. Also, the fact that call center representatives are constantly in contact with customers (with problems in many cases) makes it difficult for them to keep calm, which results in emotional exhaustion in addition to the burnout that they face due to their targets and performance metrics. This burnout and exhaustion leads to increased absenteeism, turnover, and other problems associated with employees, resulting in an increase in hiring costs and reduced performance of the call center.

The above problems combined with the general problems involved in offshore outsourcing greatly impede the advantages associated with it. If call centers are not established with the required infrastructure and are not managed well with the right tools for scheduling, forecasting, and the like, it can result in tremendous increase in costs for both the service provider and the client, and would undermine the key purpose for which an organization would choose to offshore.

3 Research Procedure

This research was carried out in three stages. The various steps involved in developing information in all the stages of this research are as follows:

3.1 Information Gathering

Information for the purpose of this research was gathered from various secondary sources by dividing the focus of the research into various phases. The focus of the first phase of information gathering was limited to finding sources with information pertaining to outsourcing and offshoring. In the second phase, the focus was directed on information specific to the call center industry and its functioning. The third phase focused on filtering all the information gathered from the first two phases to identify information pertinent to the benefits and challenges involved in both call centers and outsourcing. This information was then used as a base for developing a strategy for outsourcing call center services which is the main topic of the research.

3.2 Information Analysis

All the information gathered from the previous stage was then analyzed. Analysis of information was again divided into various topics to organize the findings. Information pertaining to the benefits of outsourcing was first analyzed to understand what makes outsourcing such an important part of today's business world. The next step after the analysis of the benefits was to gain an understanding of the challenges that await organizations in their efforts to outsource. This analysis of challenges in outsourcing was done in two phases. To

understand the common outsourcing challenges faced by organizations irrespective of their industry, an analysis independent of the industry was first performed. This was followed by performing an analysis of the challenges specific to the call center industry.

3.3 Developing a Strategy for Outsourcing of Inbound Call Center Services

In this stage, a qualitative strategy was derived that will serve as a guide for organizations/firms to assess the challenges involved in outsourcing their inbound call center services. This strategy was developed by first understanding industry-specific challenges (outsourcing and call center) as mentioned in the previous stage. This was followed by mapping the challenges and constraints specific to outsourcing of call center services. Having these challenges as the premise, the strategy developed provides details on the various steps organizations need to take when outsourcing their inbound call center services.

4 Results

The challenges/risks involved in the outsourcing of call centers are a blend of the general challenges of outsourcing and the challenges specific to call centers. Therefore, the strategy covers all aspects of the challenges that are general (industry independent) and the challenges that are specific to the call center industry. This will be accomplished by first providing risk mitigation strategies to deal with the challenges of outsourcing (see Section 2.2) followed by risk mitigation strategies for the challenges specific to call centers (see Section 2.4.1).

4.1 Mitigating Outsourcing Challenges

1. Privacy and Security: These two risks can be greatly mitigated if the client organization is successful in teaming up with the right vendor or service provider (SP). The right SP is one that has the necessary capabilities and follows the best practice processes and procedures. To find the right SP the client organization first needs to be diligent in researching possible SPs. An evaluation is important prior to selection of the potential SPs with regards to their skills, leadership, program management, governance, domain expertise, technology exploitation, resource management, and track record. This can be achieved by examining their processes, past projects, standards, and methodologies (Burns, 2008; Lacity, et al., 2008). This can also be achieved by interviewing any current or previous clients of the SP. A capabilities assessment must be done through a carefully designed request for quotation (RFQ) or request for proposal (RFP) that includes questions about the

vendor's expertise in supporting the processes required, the skill sets they possess, and other aspects like, but not limited to, attrition management, and pricing structure (Sehgal, et al., 2010). Also, once a SP is selected the client organizations can be sure that their intellectual property is protected and their data is not compromised by ensuring that the SP follows all necessary laws such as, but not limited to, the Accountability Act, and California's Cyber-Security Act mandate (Perkins, 2003), and also that they follow other relevant and best practice policies, procedures, and technical measures to prevent unauthorized access, alteration, theft, or physical damage to information systems (Burns, 2008). It is then important to ensure that the best performance metrics are in place, such as business partners meeting all the service-level agreements (SLAs) which include incentives for good performance, penalties for underachievers, key performance indicators (KPI), and necessary security protocols. Another overriding factor that helps in this regard is the building of a trusting relationship after finalizing the SP. It may also help to incentivize the SPs appropriately to adhere to and manage the security of the intellectual assets of the client organization (Desouza, 2008).

Client organizations that are exposed to very high risk with regards to their IP and other data due to the nature of their work can allay their concerns about protecting their intellectual capital by also choosing to invest in captive centers (a client organization's own offshore subsidiary), if they choose to outsource. Another way to achieve this would be to opt for a closed joint venture model (a joint venture that exists only to serve the client organization), giving the client a bigger stake and control in the remote operations (Sehgal, et al., 2010).

2. Culture: Client organizations that choose offshore SPs need to provide their employees with specific education such as multicultural awareness and cross-cultural training. This will provide employees of both organizations a better understanding of the different norms, values, and customs of other cultures. Many SPs have such programs in place to train their employees on cultural awareness requirements (McCray, 2008). Also, building social capital with foundations of trust, shared systems of meaning, and social linkages is considered key to the success of organizations functioning in multicultural environments (Lacity, et al., 2008).

Issues arising due to differences in national/regional cultures such as language barriers and norms of behavior can also be mitigated via means of necessary training such as accent neutralization and by means of setting expected standards.

Issues arising due to poor communication such as lack of cohesion and lack of understanding of post-contractual processes can be solved by the client by taking appropriate actions. These actions include minimizing the use of non-verbal communication or introducing communication (written) standards and providing necessary training on verbal and written communication (accepted styles of writing and the like). For addressing issues relating to the understanding of post-contractual processes, it is important for the client and SP to jointly design key operational processes and decision rights (such as who at the SP should initiate service requests, who in the client organization will provide necessary approvals, and the like) prior to the implementation period. And, during negotiation it is important to have executives

from both the client and the service provider who will participate and be responsible for future delivery (McCray, 2008).

Other communication issues can be avoided by setting clear objectives and defining the scope of operations. Senior management should insist on open and frequent communication with employees and important stakeholders to ensure the smooth flow of information.

Other issues relating to cultural differences can be solved by making alliances between organizations with similar cultural norms. This can be achieved either by outsourcing to a vendor within the same country (of client's origin) or by nearshoring instead of opting to go offshore.

3. Infrastructure: Advancements in information technology and other technologies make it possible for organizations to create a virtual environment, very similar to organizations in developed nations. While problems such as black outs and power outages are not uncommon in under-developed and developing countries, there is a possibility to overcome such issues by investing in the right technologies such as power generators that are used as alternate mechanisms in such situations. However, it is important for client organizations to gauge the infrastructure capabilities of SPs before they decide to go offshore.
4. Knowledge Transfer and Retention: The solution to the issue of perceived loss of client's knowledge due to knowledge transfer to the SP is the investment in social capital. Social capital is where the client and the suppliers have social linkages via

which resources are exchanged to get work done, thus creating value to both parties involved (Jones, 2009; Lacity, et al., 2008). Also, important in this regard is the necessity of the client and the SP to work jointly to develop approaches such as retention policies that limit staff turnover at the SP (McCray, 2008).

With respect to retaining knowledge in-house, it is important for clients to reassure their internal staff that offshore outsourcing would not result in layoffs. On the contrary, client organizations need to demonstrate and highlight how their decision to outsource or offshore a function would contribute to the growth of the company, which in turn would create more jobs and enhance the internal career paths of their in-house employees.

5. Distance and Time Zones: Distance and travel costs between the client organizations and offshore SPs may impede the level of personal interface. Client organizations can mitigate this issue by deploying a project leader at the SP sites. Another solution to this problem would be organizing travel to SP sites during non-peak times of the year when travel costs are comparatively reasonable. Client organizations can also work with travel organizers in order to minimize costs of travel and reduce the duration of travel to the extent possible.

As discussed earlier, differences in time zones between the SP and the client organization can be used to the advantage of the client organization. Most service providers in offshore locations provide 24-hour schedules (Bahrami, 2009). Offshore SPs work during the daytime work hours of the client organizations, especially in the case of call centers and BPOs to enable parallel functioning. This process

substantially increases the overall productivity and speed of work and facilitates timely communication, feedback, and problem solving between the two organizations, thus enhancing the quality of service provided (Kedia & Mukherjee, 2009).

6. **End-User Resistance:** There could be resistance from end-users or customers receiving the service if the change to an offshore SP is obvious, such as marked differences in verbal or written communication initiated by the SP's employees or a deviation from delivering a certain standard of service. This issue can be mitigated by means of providing the SP's employees with necessary training as required for written and spoken communication and special training programs such as accent neutralization training to facilitate better communication. Customers are normally satisfied if these issues are taken care of and if the service is prompt and as per other customer expectations. This can be achieved with proper organizational and procedural alignment between the client and the SP.

7. **Labor Backlash:** Negative publicity and staff sabotage due to lack of trust in management strategies are likely challenges that organizations may face as a result of their decision to outsource (especially offshore) their services. These issues need to be carefully addressed by the senior management as a part of their initial decision to outsource. Senior management needs to clearly communicate with their employees regarding the need to outsource a certain function of the organization. The most common reasons for outsourcing are cost reduction or the function being a non-core competence, thus leaving existing employees to focus on the company's core competencies. Regardless of the reason for which the organization decides to

outsource, the need to clarify this to all its employees and stakeholders is imperative. Client organizations that do not plan to reduce employees as a part of their outsourcing effort need to eliminate the assumption and fear of their employees that there would be a substitution effect (that more jobs overseas means fewer jobs in their own country/organization). This can be done by taking many steps such as reassuring the employees that there will be no layoffs as a result of offshoring and explaining how the organization may in turn make more profit and how that profit will then benefit the employees and other stakeholders. This and other such information need to be shared with employees to allay this challenge.

4.2 Mitigating Call Center Challenges

The challenges that are specific to the functioning of a call center are more technical and process based than are the challenges involved in the process of outsourcing itself. Therefore, most of these challenges can be allayed if the organization willing to outsource selects a SP that is functionally and operationally well equipped. Deploying the necessary tools and techniques by the SP will aid in avoiding most of the problems arising from each of the challenges discussed earlier. There are many tools available for this purpose, a detailed explanation of which is provided by various authors as referred to in Chapter 2 of this research. An explanation of the ways of mitigating the call center specific challenges is provided below:

1. Resource Acquisition (Staffing): There are multiple ways of addressing the problem of resource acquisition. Techniques such as combining control theory and chance-constrained programming can be used to address this problem, in addition to a hiring

strategy that considers both the hiring of regular workers and the contracting of part-time workers (Aksin, et al., 2007). Another strategy is based on hiring a standard number of employees on a monthly or term basis well ahead of time based on the forecasted work load. Approaches such as these help call centers in estimating the number of resources required well ahead of time, thus helping in addressing resource acquisition challenges.

2. Forecasting: To address the issue of forecasting in call centers a multiplicative effects model can be used for forecasting Poisson arrival rates for short intervals, typically 15, 30, or 60 minutes in length, with a 1-day lead time. Another model achieves this by using a Bayesian framework to calculate/forecast the call arrival rates based on advertisements that drive customers to contact the call centers. Yet another approach uses statistical models for forecasting call volumes for intervals in a given day in a call center. Other models available for forecasting include the use of seasonal autoregressive moving average modeling, dynamic harmonic regression, and exponential smoothing (Aksin, et al., 2007). Some other methods by which call centers can achieve their forecasting requirements are by the use of descriptive models such as histograms, statistical techniques using explanatory variables, autoregressive integrated moving average models, and explanatory models to forecast future arrival rates of calls to a call center (Gans, et al., 2003). Call centers may not always have availability of sufficient historical data based on which reliable call forecasts can be made. Furthermore, the prediction of call arrivals or forecasting can be affected by unpredictable factors such as weather conditions. Therefore, it may be beneficial for call centers to develop distributional (rather than point) forecasts.

3. **Resource Deployment:** The solution to the challenge of resource deployment is partly based on how successful a call center is with its resource acquisition (hiring, training, and the like) and call forecasting. Forecasting and queuing models play an important role in resource deployment decisions. Call centers that are successful at determining the amount of workload expected at a given time and that have a fair estimate and availability of the required number of resources based on such a forecast easily avert the issue of resource deployment. However, there are other aspects to this issue that need to be addressed such as scheduling and rostering. Therefore, the traditional approach used by call centers to the resource deployment function is to build an agent schedule that aims at achieving the prescribed customer waiting time distribution objectives while also aiming to achieve low costs. Call centers require supporting software to perform scheduling. One of the commonly used processes for scheduling is the “shift bidding” process. In this process each employee is first allowed to state their preference for various schedules. This process is followed by ranking employees based on seniority, and then assigning schedules according to the rankings (Gans, et al., 2003). Scheduling is also dependent on other data pertaining to call forecasts (how many calls are expected to arrive and at what times) and how quickly the call center seeks to serve these customers. Once all the key determinants (staffing, scheduling, and rostering) have been established, the number of resources that need to be deployed can be determined by using techniques such as queuing performance evaluation models, simulation models, and analytical queuing models. To an extent the issue of call deployment is also dependent on the call routing problem.

4. Call Routing: Different solutions to the call routing problem are discussed by a few authors in their writing (Aksin, et al., 2007; Gans, et al., 2003). A few of the many models suggested include the use of dynamic programming, skills-based routing, deterministic linear programming, diffusion or fluid approximations, and simulation in combination with optimization. The problem of call routing is also dependent on other problems of staffing (resource acquisition and resource deployment) and scheduling. Therefore, the extent to which the call routing problem can be addressed not only depends on the use and application of technology but also on other variables that determine the extent to which organizations can successfully solve this problem.

5. Demand Modulation: Many call centers are exposed to the issue of tackling highly unpredictable demand that is also time-varying. To an extent this problem is dependent on call forecasts. However, as discussed earlier, the element of unpredictability is inherent. In addition, customers are mostly impatient and require to be served within a certain time. Demand modulation plays an important role in encouraging callers to obtain service through other channels such as the Internet that are more scalable or less expensive. There are many forms of demand modulation used in call centers; one of the simplest forms is the use of call admissions (busy signals). However, most call centers are much more advanced and use a more sophisticated form of call admissions that notifies callers of their anticipated delay (delay announcement). Some announcements include the anticipated delay and a message recording option where the customer can leave a brief message and number so that the call center can call them back within a certain time frame. The use of interactive voice recognition (IVR) systems is also a great approach to the issues of

call routing and demand modulation. The IVR can be designed in a way to provide the customer with options so that the customer can obtain necessary information directly without speaking to a CSR (also called an agent). It also helps in skills-based routing, and since some of the needs of customers can be addressed through this system, it also partially addresses the issue of demand modulation.

6. **Human Resource Issues:** The core of the human resource issue has its roots in almost all of the above listed challenges in a call center. All the decisions relating to staffing, shift scheduling, rostering, and routing controls affect the employees of a call center as well (Aksin, et al., 2007). The solution to this issue is the use of high involvement practices that lead to higher quality and lower resignation rates. The issues such as absenteeism that are the result of physical and mental burnout of employees can be addressed by having a good understanding of the relationship between human resource practices and performance outcome initiatives in a call center. Call center managers can reduce the workload of their employees by employing various staffing or routing techniques and by adjusting staff levels and differentiating the type of work through call blending or better skills-based routing, thus addressing one of the most important reasons for burnout (Aksin, et al., 2007). Therefore, call center managers need to determine the right mix of the number of employees/agents required, performance targets, and techniques to address other related issues, in order to solve the issues relating to human capital in call centers.

4.3 Strategy for Outsourcing Inbound Call Center Services

The number of virtues or challenges present in outsourcing, together with the challenges faced by call centers, is more likely to increase the hesitation or fear of organizations about entering into such an arrangement. It is therefore worth considering what it takes to do it right. The following strategy will provide direction for organizations willing to outsource their inbound call center services.

1. Identifying an Apposite Business Model: Organizations that desire to outsource their inbound call center function need to determine which model would be the best fit for their needs. Selecting a model, whether it be a vendor-run operation, a captive arrangement, a captive agreement with staff augmentation resource (a company with its own remote facility that employs some staff from outside vendors), or a closed or an open JV would determine the level of investment and management required by the organization (Sehgal, et al., 2010). Determining the business model should be the immediate step following the decision to outsource the inbound call center function in the organization. The business model helps in addressing most of the various other problems involved in outsourcing, such as the security concerns of the organization, issues relating to culture, distance and time zone, infrastructure, and, to a great extent, labor backlash. For example: consider an organization that decides to adopt a captive center approach to offshore its inbound call center services. This business model allows it to significantly cut costs (capitalizing offshore economies), reduces risks concerning IP and security, and increases operational control of the organization over its operations. Moreover, since the client organization retains full control of the

operations in the captive center, it can deploy its own resources to this facility, thus alleviating the issue of labor backlash. However, the overall cost savings realized from captive centers and most other business models as compared to outsourcing the function to a third-party vendor may be relatively low. The costs and uncertainties of success associated will greatly increase due to the high costs involved and expertise required in setting up the facility with the necessary technology and the need to tackle requirements relating to other challenges faced in inbound call centers as discussed earlier. Whereas if the same is outsourced to a quality vendor or SP, the client organization may realize larger cost savings and need not worry about the difficulties involved in setting up quality operations in an overseas location. Hence, most organizations prefer outsourcing their inbound call center operations to a SP (vendor) either within the country, nearshore, or offshore. Therefore, the first and most imperative thing for the organizations to do is to determine a suitable and feasible business model which is the best fit based on the objectives and requirements it aims to achieve.

2. Choosing the Right Vendors: Organizations that select outsourcing their inbound call center function to a third party vendor as their business model need to determine and choose an appropriate vendor. During the process of selecting a SP, client organizations need to prioritize the capabilities of the SP over the cost savings they realize as a result of outsourcing or offshoring (Sehgal, et al., 2010). The capabilities that client organizations should expect a SP to have are technology, process infrastructure, adherence to regulatory requirements, and earned certifications which determine the ability of the call centers to meet the needs of the client organizations

(Whitaker & Krishnan, 2005). These call center capabilities are discussed in further detail below:

- i. Technology: Use of a robust technology infrastructure provides call centers with the capability to avert all or most of the issues or challenges that arise due to a lack of necessary technology such as forecasting, resource acquisition, resource deployment, scheduling, and call modulation (as discussed earlier). The use and deployment of appropriate technology provides call centers with greater potential for efficiency and enables scalability and transparency in their operations. Robust technology includes the use of value-added analytics or integration with other client systems such as customer relationship management, in addition to the various tools discussed in Section 4.2 of this research. These technologies facilitate the automation of services for call centers through the use of IVRs, standardize customer transactions through the use of technologies like skills-based routing, and help in creating machine-paced operations through the use of ACD systems. Also, the use of performance management technologies such as scripting and electronic monitoring help in routinizing work and aid easy monitoring by providing real-time measures of talk times, adherence to schedules and scripted texts, and sales productivity (Batt, et al., 2005). In addition, the availability of proper technology gives call center managers great flexibilities such as being able to dynamically change the number of trunk lines and number of working CSRs based on the load of arriving calls (Gans, et al., 2003). This will help in reducing abandonment rates and the overall call wait, resulting in increased productivity. Similarly the incorporation of an IVR, with which customers interact prior to

joining the agents' queue, helps in distribution of the traffic by creating two stations in tandem: an IVR followed by the CSR (where necessary). Also, call centers are at a greater advantage when they use queuing models like M/M/N+M that are more sophisticated due to being both rich and analyzable to provide information that is very important for call center managers, as compared to the M/M/N (Erlang C, which models out busy signals) and the M/M/N/N (Erlang B, disallowing waiting) (Garnett, et al., 2002). Therefore, the success of the outsourcing decision of the client organization in achieving its desired goals depends greatly on what technology the SP uses for the purposes of queuing, hiring, and scheduling, which form the core of the functions of a call center.

ii. Process: The strength of process capabilities of a SP such as, but not limited to, restricting physical access, monitoring inbound/outbound data, and auditing changes to data, determine the level to which the call center provides its client organization the security they expect (Whitaker & Krishnan, 2005). The challenges, which come with insufficient security capabilities such as issues with privacy of customer data and others as discussed in Section 2.2 of this research, can be avoided to a great extent when the SP's processes are well designed. Therefore, the selection of a SP with good process capabilities is paramount to the success of the client organization's outsourcing efforts.

iii. Regulation: It is important for client organizations to select a SP that complies with the necessary regulations, such as, but not limited to, the Health Insurance Portability and Accountability Act (HIPAA), Do-Not-Call, and Anti-Spam that

are required by the call center industry and outsourcing industry in order to protect the privacy of customer data. SPs need to also comply with other required laws and regulations such as the Sarbanes-Oxley Act to protect the integrity of the financial reporting process. Client organizations need to conduct prior research on the regulations practiced by SPs based on the country of their origin because different countries follow U.S. and UK laws to differing levels as required. So, it is imperative for client organizations to ensure that all laws are meticulously followed by the SP organization before choosing and finalizing the SP to outsource their inbound call center services.

iv. **Certifications:** The proficiency, level of process maturity, expertise, and quality of the SP can be judged based on the certifications earned by them. Similar to quality certifications such as the capability maturity model for software development and ISO 9000 standards for quality management, the Customer Operations Performance Center (COPC-2000) is a certification that indicates the degree of consistency, expertise, and quality of service provided by an inbound call center service providing SP. Therefore, client organizations must look for this and other necessary certifications while selecting a SP to outsource their call center operations.

3. **Generating and Retaining Data:** Call centers generate vast amounts of data. Data generated by call centers can be categorized into (but not limited to) operational data that reflect the physical process by which calls are handled, operational customer data which provide listings of every call handled (including time stamps) by a site or

network of call centers, operational agent data which provide a moment-by-moment history of the time each logged-in agent spent in various system states (available, wrap-up, handling a call, and the like), marketing or business data that are gathered by a company's corporate information system, and human resources data that record the history and profile of CSRs and psychological data that are collected from customer, agent or manager surveys (Gans, et al., 2003). These data provide call center managers and client organizations abilities such as the reconstruction of a detailed history of each call that enters the system, such as, but not limited to, when a call arrived; who the customer was; what features of the IVR the customer chose and how long each action took; whether and how long the caller waited in queue; whether and for how long a CSR served the call; and which CSR helped the customer (Gans, et al., 2003). Recording this level of information can be achieved through the use of special purpose computers called IVR(s) and ACD(s) and the CTI software, as discussed in Section 2.4. This information is very valuable to the client organization and the SP for a multitude of reasons such as measuring system performance, planning, setting performance metrics, staffing, measuring quality of service, measuring productivity, legal purposes, and the like. Therefore, it is paramount for client organizations to ensure that the SP generates and retains all data relating to customer interactions.

4. **Setting and Communicating Expectations and Performance Metrics:** Senior management within the client organization must paint the vision and commit an appropriate level of management staff required to achieve the intended results. This management team at the client organization needs to ensure the participation of important members of both the client organization and the SP organization in all their

initiatives to increase or achieve desired effectiveness and productivity. Creating retention policies that address both client organization employees as well as employees of the SP should be developed as a part of the outsourcing strategy of the client. It is very important to design and develop a comprehensive communication program addressing all stakeholders who are affected by the changes from outsourcing (McCray, 2008). The management team at the client organization must be prepared to assess the performance of the SP and its team. For this, the client organization can adopt two approaches: SLAs and KPIs. It is important to ensure that SLAs and KPIs are planned, negotiated, and agreed upon before the contract is signed and must clearly communicate the expected performance levels, quantifiable and measurable benchmarks, and the like. Establishing a strong governance structure is another important aspect to ensure increased efficiency of sourcing initiatives. It also ensures that the set objectives are met, financial benefits are realized, and disputes and conflicts (if any) between the SP and client organization are resolved (Sehgal, et al., 2010).

5. Efficiently Managing Human Capital: Client organizations should work with SPs to design and implement human resource practices that alleviate the problems and facilitate better performance by the call center. Deploying high involvement practices is one of the suggested solutions to lower resignation rates and to improve call center performance (Aksin, et al., 2007). Similarly, SPs that succeed in creating a collaborative environment foster knowledge sharing which helps in improving service levels. Adjusting staffing levels, the use of differentiating skill sets (based on type of work) through call blending or skills-based routing, and the like are some ways of

addressing the issue of staff burnout due to work overload and extensive performance monitoring in inbound call centers. Criteria such as, but not limited to, staffing decisions (resource acquisition and deployment), call forecasts, absenteeism, and turnover must be considered while setting measures for the quantitative targets of CSRs such as, but not limited to, calls per hour, and service time. This way of target setting will minimize the burnout in call centers and will result in reduced absenteeism, turnover, and rework (call backs). This will in turn improve the productivity and contribute to achieving desired outcomes.

4.4 Conclusions

Call centers operate under high levels of uncertainty as a result of being faced with multiple challenges. Technology that helps organizations allay these problems is expensive. Moreover, outsourcing has considerable transition costs associated with its various activities such as, but not limited to, supplier search, negotiation, communication, knowledge transfer, and data retention. Therefore, client organizations that plan to outsource their inbound call center services in order to achieve total cost savings need to ensure that the total volume of work is large enough to compensate for the additional transaction costs, in addition to paying close attention to the elements of the strategy discussed in Section 4.3.

The probability of the success of organizations involved in outsourcing also greatly depends on the active involvement of senior management from the onset. Before making a decision to outsource the senior management at the client organization should play an active role in identifying if the function to be outsourced (in this case – inbound call center services) is a core or distinctive competence of their organization. Companies that compete on the basis

of service differentiation, customer loyalty, and the like, or offer complex service offerings may want to retain their inbound call center services instead of outsourcing or offshoring it. However, those companies that deal with simple and codifiable transactions will continue to explore the benefits of outsourcing and of going offshore.

The senior management is responsible for setting up a separate management team to supervise and manage the outsourced function. This team with the support of the senior management needs to ensure that all aspects of the strategy outlined in this research are addressed to ensure the smooth transition and management of the function outsourced.

Although formal and informal barriers to outsourcing of call center services persist and companies are subject to the risks involved in this venture, all evidence indicates that companies continue to consider outsourcing as a very viable option (especially for call center services) as they enjoy colossal cost savings and other advantages as a result of great technological advances, lower/competitive travel costs, increased availability of skilled labor, and the like. Moreover, client organizations that outsource their support functions (inbound call center services) have a better competitive advantage as compared to other organizations that do not adopt this kind of a strategy as a result of reasons such as, but not limited to, the greater ability of organizations to be able to focus on their core business, and realizing location economies. Therefore, in the present day's highly competitive environment, a strategy that incorporates outsourcing in it has become an imperative and a matter of survival. (Bahrami, 2009; Batt, et al., 2005; Jones, 2009; Lacity, et al., 2008)

5 Suggestions for Further Research

There is enormous amount of literature available on the topic of outsourcing.

However, there is not much literature available specific to the area of call centers. Most of the available literature on call centers focus on quantitative analysis and provide models to support their analysis on the management of call center functions. Therefore, some of the areas where there is a need and great scope for further research on the topic of call center outsourcing and offshoring that this research work has uncovered, are as follows:

1. Call center management
 - i. Qualitative
 - ii. Theoretical
2. Extending the scope of research available on explanatory models.
3. Extending the scope of research available on quantitative models.
4. Further research on all aspects of call center outsourcing.
5. A study on behavioral patterns of customers and CSRs. The influence of patience levels (impatience) in both customers and CSRs and how this function (of patience) affects other aspects of call center management.
6. A study on what would be an ideal combination of tools, techniques, or models to use to address the various challenges in call center functioning such as, but not limited to, forecasting, scheduling, resource deployment, and call routing.
7. Developing a comprehensive checklist of do's and don'ts (based on this report) for organizations to adopt when going through their outsourcing process.

References

- Aksin, Z., Armony, M., & Mehrotra, V. (2007). The Modern Call Center: A Multidisciplinary Perspective on Operations Management Research. *Production and Operations Management (POMS)*, 16(6), 665-688.
- Armony, M., & Mandelbaum, A. (2008). Design, staffing and control of large service systems: The case of a single customer class and multiple server types. *Preprint*.
- Atlason, J., Epelman, M., & Henderson, S. (2003). *Using simulation to approximate subgradients of convex performance measures in service systems*.
- Bahrami, B. (2009). A look at outsourcing offshore. *Competitiveness Review: An international business journal incorporating journal of global competitiveness*, 19(3), 212-223.
- Banerjee, A., & Williams, S. A. (2009). International service outsourcing: Using offshore analytics to identify determinants of value-added outsourcing. *Strategic Outsourcing: An International Journal*, 2(1), 68-79.
- Batt, R., Doellgast, V., Kwon, H., & Agrawal, V. (2005). Service Management and Employment Systems in U.S. and Indian Call Centers [with Comment and Discussion]. *Brookings Trade Forum*(ArticleType: primary_article / Issue Title: Offshoring White-Collar Work / Full publication date: 2005 / Copyright © 2005 The Brookings Institution), 335-372.
- Bhutada, S. (2009). Outsourcing - Key management issues. from <http://www.slideshare.net/sarangbhutada/outsourcing-key-management-issues>
- Burns, B. (2008). Offshoring: secure or open to the praying mantis? *Strategic Outsourcing: An International Journal*, 1(1), 9.
- Business Process Outsourcing. (2007). from http://searchcio.techtarget.com/sDefinition/0,,sid182_gci928308,00.html
- Call Center. (2010). from www.nationalbuyers.co.uk/.../Callcenter.jpg
- Call Center Glossary. (2003). from <http://www.fusionbposervices.com/glossary.html>
- Call Center in Brazil. (2009). from expatbrazil.wordpress.com/.../
- Corbett, M. (2004). *Outsourcing revolution*.
- Desouza, K. C. (2008). The neglected dimension in strategic sourcing: security. *Strategic Outsourcing: An International Journal*, 1(3), 288-292.

- DiMattia, S. S. (2004). Offshoring Hits Home. [Article]. *Library Journal*, 129(6), 42-43.
- Ecommerce definition and types of ecommerce. (2006). from <http://www.digitSmith.com/ecommerce-definition.html>
- Edgell, J., Meister, G. E., & Stamp, N. (2008). Global sourcing trends in 2008. *Strategic Outsourcing: An International Journal*, 1(2), 173-180.
- Gans, N., Koole, G., & Mandelbaum, A. (2003). Telephone call centers: Tutorial, review, and research prospects. *Manufacturing and Service Operations Management*, 5(2), 79-141.
- Garner, C. A. (2004). Offshoring in the Service Sector: Economic Impact and Policy Issues. [Feature]. *Economic Review*, 89(3), 5-37.
- Garnett, O., Mandelbaum, A., & Reiman, M. (2002). Designing a call center with impatient customers. *Manufacturing & Service Operations Management*, 4(3), 208-227.
- Greaver, M. (1999). *Strategic outsourcing: a structured approach to outsourcing decisions and initiatives*: AMACOM/American Management Association.
- Gurvich, I., & Whitt, W. (2006). Service-level differentiation in many-server service systems: a solution based on fixed-queue-ratio routing. *Submitted to Oper. Res.*
- Harrison, M. J., & Zeevi, A. (2004). Dynamic scheduling of a multiclass queue in the Halfin-Whitt heavy traffic regime. *Operations Research*, 52(2), 243-257.
- Hill, C. W. L. (2007). Competitng in global market placed. *International Business*.
- Hosting. (2003). from http://searchsoa.techtarget.com/sDefinition/0,,sid26_gci213581,00.html
- Houlihan, M. (2002). Tensions and variations in call centre management strategies. *Human Resource Management Journal*, 12(4), 67-85.
- Jones, W. O. (2009). Outsourcing in China: opportunities, challenges and lessons learned: INDUSTRY INSIGHT. *Strategic Outsourcing: An International Journal*, 2(2), 187-203.
- Kedia, B. L., & Mukherjee, D. (2009). Understanding offshoring: A research framework based on disintegration, location and externalization advantages *Journal of World Business*, 44(3), 250-261.
- Lacity, M., Willcocks, L., & Rottman, J. (2008). Global outsourcing of back office services: lessons, trends, and enduring challenges. *Strategic Outsourcing: An International Journal*, 1(1), 13-34.

- McCray, S. (2008). The Top 10 Problems With Outsourcing Implementations. from http://www.ssonetwork.com/topic_detail.aspx?id=2144&ekfrm=6
- McDougall, P. (2003). Offshore 'Hiccups In An Irreversible Trend'. Retrieved from <http://www.informationweek.com/news/global-cio/showArticle.jhtml?articleID=16400977>
- Michelle, A. (2005). Call Centre Offshoring Migrates Beyond Cost to Skills. from <http://www.dimensiondata.com/NR/rdonlyres/66EF7D45-73C5-4B14-9880-132F45AC7C54/1115/CallCentreOffshoringMigratesBeyondCostToSkills1.pdf>
- Perkins, B. (2003). A reality check on going offshore. *Computerworld*, 37, 24-42.
- Rai, A., Maruping, L., & Venkatesh, V. (2009). Offshore information systems project success: The role of social embeddedness and cultural characteristics. *Management Information Systems Quarterly*, 33(3), 13.
- Rothman, J. (2003). 11 Steps to Successful Outsourcing: A contrarian's view. *Computerworld*.
- Sehgal, V., Sachan, S., & Kysliger, R. (2010). The Elusive Right Path to Engineering Offshoring Retrieved from <http://www.strategy-business.com/article/00016?gko=ffb69>
- Target, T. (2007). Call Center Definition. from <http://searchcrm.techtarget.com/definition/call-center>
- Trefler, D., Rodrik, D., & Antràs, P. (2005). Service Offshoring: Threats and Opportunities [with Comments and Discussion]. *Brookings Trade Forum*(ArticleType: primary_article / Issue Title: Offshoring White-Collar Work / Full publication date: 2005 / Copyright © 2005 The Brookings Institution), 35-73.
- Weinberg, J., Brown, L., & Stroud, J. (2007). Bayesian forecasting of an inhomogeneous Poisson process with applications to call center data. *Journal of the american statistical association*, 102(480), 1185-1198.
- Whitaker, J., & Krishnan, M. S. (2005). Outsourcing and Offshoring - Call Center Capabilities. *Business Index*.