GLOBAL OUTSOURCING IN LANDSCAPE ARCHITECTURE: STUDY OF CURRENT AND FUTURE TRENDS AND EFFECTS

by

AZRA KHAN

Presented to the Faculty of the Graduate School of

The University of Texas at Arlington in Partial Fulfillment

of the Requirements

for the Degree of

MASTER OF LANDSCAPE ARCHITECTURE

THE UNIVERSITY OF TEXAS AT ARLINGTON

December 2007

ACKNOWLEDGEMENTS

First and foremost I would like to thank my mentor and committee chair, Prof. Gary Robinette, for inspiration since the conception of this thesis. I am thankful to Dr. Pat Taylor for his expert guidance and support, as well as committee members Prof. David Hopman and Dr. Madan Mehta.

My heartfelt thanks to all the respondents and participants, especially James Katz, Vice President of CADFORCE; Michael Jansen, President of Satellier; Jason Harris, Business Development Manager of GLDI; Abhilash Varghese; Samuel Jones; Philip Neeley of Carter Burgess; and Indranil Hira, who all devoted their time and took an interest in my research. I would also like to thank my family members and friends back home and friends that I have made in the landscape architecture program for their constant support and encouragement.

Last but not the least, this thesis would not have been possible with the undying support and sacrifices of my fiancé Shashank Modhia. I take this opportunity deeply to appreciate his support during my ups and downs as a researcher and also as an individual.

7 November 2007

ABSTRACT

GLOBAL OUTSOURCING IN LANDSCAPE ARCHITECTURE:

STUDY OF CURRENT AND FUTURE

TRENDS AND EFFECTS

Publication No. _____

Azra Khan, MLA

The University of Texas at Arlington, 2007

Supervising Professor: Gary O. Robinette.

Inspired by the rapidly emerging trends and developments in design-related professions, this thesis researches one of the most significant outcomes of globalization: global outsourcing. The last decade has witnessed a growing interest in academia in globalization and outsourcing in information technology services, but the effects of global outsourcing on the architecture, landscape architecture and construction industries have remained mostly untouched. This paper researches the current and future trends in global outsourcing and its anticipated effects on the practice of landscape architecture. Global Outsourcing is a business technique that essentially

involves reliance on low cost countries like India, China, and the Philippines for labor, technology and talent. It is rapidly gaining presence in architecture, landscape architecture and the construction industry.

From the time-tested successes of global outsourcing in information technology, manufacturing and the architecture industry, this study gathers important indicators, patterns of development and their applicability to the field to landscape architecture. Further, the study addresses concerns over the lack of knowledge about outsourcing in among landscape architects. This research provides a comprehensive background of global outsourcing and addresses issues related to it. The method of inquiry covers different levels of critique, from general opinion, to individual experiences, to studying global outsourcing as a business model for landscape architecture industry.

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

LIST OF TABLES

CHAPTER 1

INTRODUCTION

"When a thing is new, people say: 'It is not true.' Later, when its truth becomes obvious, they say: 'It is not important.' Finally, when its importance cannot be denied, they say: 'Anyway, it is not new."
-William James, 1896

1.1 Global outsourcing

The term outsourcing can be broadly defined as a contractual agreement that entails the procurement of goods and/or services from an external provider (Kerkoff, 2006). A banking corporation contracting its hiring needs to a recruitment agency is an example of outsourcing. In design oriented professions, outsourcing means hiring an agency or individual on contractual basis to cope up with extra drafting work such as construction documents, as-built drawings, three dimensional graphics, and visualizations.

Global outsourcing can be defined as the transfer of control of the business process to overseas locations—either to gain financial advantage, or improve quality in workflow or both. This paper presents information on global outsourcing for both individual practitioners and firms in landscape architecture industry. Economists have developed variations on the term global outsourcing like offshoring, oneshoring, bestshoring, nearshoring, and farshoring depending upon the overseas location, suitability, and business practices. Terms such as near-shore outsourcing or close-shore outsourcing are also used to indicate that while still outside the country, there is a closer

proximity between the customer organization's primary operations and that of the provider. For example, for a United States based company, Canada might be considered near-shore, while India is offshore.

Developments in information technology have reduced the need for spatial proximity in design industry. The ability to compress time and space is paving the way for the relocation of architectural production facilities from high wage to low wage regions. Computer-based drafting allows for better standardization and more efficient production of project information, while electronic communication links make the immediate transfer of this information possible across long distances (Tombesi, 2003). Numerous examples already exist of architecture firms that have adopted this strategy to reduce their overheads (Engardio, 2007). The research objectives of this paper are to explore the emerging trends of global outsourcing and the impacts of globalization on the practice of landscape architecture.

1.2 Research questions

The primary research questions that this thesis addresses are listed below:

1. What are the current and anticipated future trends in global outsourcing related to design professions in general, and landscape architecture in particular?
2. How do firms handle some of the issues related to global outsourcing? for example, vendor selection, time zone differences, and human resource management?

3. What, if any, are the short term and long term effects of global outsourcing on the profession of landscape architecture?

1.3 Overview of the Study

This research is a study of the trends and effects of global outsourcing with respect to the landscape architecture industry. Chapter Two reviews the current available literature, to provide a general understanding of trends and opinion about the growing popularity of outsourcing of drafting and related services. There are differences of opinion on outsourcing with reference to its applicability in the field of landscape architecture and its effects on the United States economy in general (Dorgan, 2006). There has been ambivalence about the positive and negative aspects of outsourcing. Some economists have blamed outsourcing for declines in employment and loss of revenue to foreign countries (Dorgan, 2006), and others have credited outsourcing with increasing business efficiency (Engardio, 2007). This section briefly touches on literature found on all issues related to outsourcing. Further, it will act as a support to the methodology of the research.

Chapter Three deals with the methods of enquiry considered necessary for conducting this research. Two separate methods were employed: interviews with key informants, and comparative analysis of traditional versus outsourcing practice models. Chapter Four analyzes the results from the interviews with key informants. The comparative analysis of traditional and global outsourcing practice models for a startup landscape architecture firm is elaborated in Chapter Five. Chapter Six summarizes the

conclusions drawn from the literature review, interviews, and the comparative study of business plan models. This chapter also suggests future avenues for research on offshore outsourcing.

1.4 Key definitions

Business Process Outsourcing (BPO): Business process outsourcing is a technique wherein a company hires external service providers to handle entire business functions such as hotlines, helpdesks, claims management, payroll financial services, document processing and storage, and data management (Kehal, 2006).

CAD (Computer Aided Drafting): CAD is defined as the process of generating drawings utilizing computer software like AutoCAD, Microstation, or LandCAD.

Core competencies: Core competencies are a set of unique internal skills and knowledge that define an organization's competitive advantages as seen by its customers. Core competencies are usually limited in number and are embodied in the organization’s products and services, rather than being the actual products or services themselves. For example, a landscape architecture firm’s core competency could be design consultation, specialized services or client contacts. These are the capabilities that enable firms to produce and sell their uniquely competitive products for the customers they serve.

Key informants: Key informants are the most prominent, informed and influential people in an organization or field of practice. With respect to this research, the key informants comprise professionals and practitioners with experience in outsourcing of design support services.

Offshoring: Performing or sourcing any part of an organization's activities at or from a location outside the company's home country is referred to as offshoring. Offshoring can be done in two ways. Companies can either create captive centers offshore staffed by their own employees, or they can contract out work to service providers, who hire their own local workforce.

Outsourcing: A long-term, results-oriented relationship with an external service provider for activities traditionally performed within the company is referred to as outsourcing. It implies a degree of managerial control and risk on the part of the provider.

Risk: Risk refers to the chance for unexpected negative business outcomes resulting from internal or external factors. There are four major classes of risk associated with outsourcing: strategic risk, operational risk, result risk, and transactional risk.

CHAPTER 2

REVIEW OF LITERATURE

"Outsourcing is the function of technology, that allows it to happen."

- David Frankel

2.1 Introduction

A review of literature was conducted to gather history and background on global outsourcing, and to familiarize readers with the concept of outsourcing. Due to the novelty of the issue, there is no established body of literature dedicated to outsourcing in the architecture, engineering and construction (AEC) industry (Kehal, 2005). However, the review looks for theoretical and empirical clues in some of the broadly relevant areas of manufacturing, information technology and business processes outsourcing. This will create a background for introducing the concept to the field of landscape architecture.

2.2 What is CAD outsourcing?

With reference to landscape architecture, or similar design professions, outsourcing means contracting out technological expertise such as computer aided drafting (CAD) to an external overseas provider. Outsourcing CAD services include, but are not limited to, electronic conversion of old drawings, preparing construction drawing sets, design development, three dimensional modeling and illustrations.

Firms that outsource offshore take varied approaches. They open branch offices in other countries, establish partnerships with foreign architecture firms, contract out work to offshore service providers, or combine these options. There are two basic kinds of CAD outsourcing:

1. Distributed Consulting: In the case of offshore-outsourcing, there is often a need to have vendor teams both onshore and offshore. The onshore vendor team coordinates face-to-face with clients, while the bulk of the outsourced work is carried out by the offshore vendor team. This is known as distributed consulting (Kehal, 2005). This form of outsourcing of design support services is currently the most prevalent (Solomon, 2006).

2. Partnership or Captive Center: Firms may form partnerships with local architects overseas to balance workload and gain access to the local market. A good example is EDSA, an internationally known full-service planning, landscape architecture, and graphic design firm, which began collaborating with Orient Landscape Art Company in Beijing, China in 2003. This lead to formation of EDSA Orient, the first and largest joint venture landscape architecture firm in China.

2.3 History and background

The term globalization, used in relation to landscape architectural practice, implies the geographic expansion of professional markets; that is, not limited to a particular region of United States (Tombesi, 2001). In recent times, the mobile nature of capital, the use of building imagery as a primary tool of corporate communication, and

the reorganization of production geographies (based on infrastructural disequilibrium between developed and developing worlds), have all generated a substantial increase in both supply and demand in international design services.

In the last decade, traces of geographic separation between design activities have emerged in design industry. In an increasing number of circumstances, design conception, production of working drawings, and site administration for the same project are carried out by components of the same company located in different parts of the world. For example, a project located in Fort Worth is designed by landscape architects located in the firm's Dallas office, as well as in its in New York and Shanghai branches. Firms use this technique to balance workload between their different offices.

Globalization of design production and globalization of architectural markets are two different things (Tombesi, 2001). Although they may occasionally work hand in hand, they respond to different conditions. In the first case, globalization of design production reflects the utilization of the international division of labor for lowering internal organizational and production costs for architecture firms. In the second case, the internationalization of the office is aimed at facilitating the export of design services and the potential expansion of its service territory.

This history of industrial geography—from automobiles and textiles to electronics—bears witness to the ability of competitive imbalances to generate transfers of plants and workforce from the old industrial or service centers of the world to their peripheries. The growth of those countries that were once called 'developing' and are now called 'newly industrialized' (NICs) can be essentially read along these lines.

Throughout the 1990s, credit companies, banking institutions, insurance and accounting firms underwent a process of collective spatial decentralization of services (Tombesi, Dave, 2003).

Recent trends in business process outsourcing show an increasing penetration in professional fields such as architecture, landscape architecture, interior design, civil and structural engineering, graphic and product design and so on. The logical question that comes to mind is: Why has global outsourcing not happened until now?

The answers to this question follow:

1. It takes time for supplier markets to develop (Bryant, 2006).
2. Since the construction industry is so fragmented, with numerous small and mid-sized firms and relatively few large multinational firms, it is difficult to discern such influences, compared to other industries (Bryant, 2006).
3. Another reason that outsourcing may be slow to reach its full potential is due to natural resistance to change. Often, outside forces like competition, shifting customer expectations and new technologies induce new trends (Friedman, 2005).
4. Outsourcing is really hard work. Many practitioners are not able to appreciate the complexities involved until they are already in an outsourcing relationship.

CAD outsourcing has become one of the most popular forms of global outsourcing (Engardio, 2007). Using an offshore CAD service, an engineer or an architect can an architect or engineer can spend his or her time on more productive and lucrative activities. Technically too, engineering aspirants feel that drafting is the most boring part of their job. CAD outsourcing availability and the monetary profit involved

has turned this into a “gaining factor” and a profession (Kobayashi-Hillary 2004), (Bryant 2006).

Over the last two decades, the Internet has created a global knowledge freeway, linking everywhere to everywhere at a cost to the end user that is now approaching zero (Kobayashi, 2004). The logical inference to this global voice and data connectivity is that any task not requiring a physical presence can be performed at the cheapest location with the most expertise in a particular domain.

2.3.1 Globalization: The world is flat

In his book, *The World Is Flat: A Brief History of the Twenty-first Century*; author Thomas L. Friedman gives a history of globalization. He states that globalization happened in three stages or “triple convergence” (Friedman, 2006). The first convergence happened around the year 2000. The net result of this convergence was the creation of a global, web-enabled playing field that allows multiple forms of collaboration—the sharing of knowledge and work—in real time, without regard to geographic distance.

The second convergence is appearing now, as new technologies get paired up with new ways of doing business that can “result in leaps in productivity” (Friedman, 2006). A cadre of managers, innovators, business consultants, designers, IT specialists and technology workers is emerging, which is comfortable with horizontal collaboration and value-creation processes that take advantage of this newer, flatter playing field.

The third convergence is also unfolding, as three billion people in China, India Russia, Eastern Europe, Latin America and Central Asia are gaining access to the

economic playing field for the first time. It is this triple convergence—of new players, on a new playing field, developing new processes and habits—that are believed to be the most important force shaping global economics and politics in the early twenty-first century (Friedman, 2006).

2.3.2 Building Information Modeling

Building information modeling (BIM) is a process in which all members of the building team collaborate on a set of three-dimensional drawings to model a project before it is built. BIM requires the flattening of the design/detail/build hierarchy, as all members of the team must work together. Such an integrated-practice approach calls for a seamless chain of decisions that must be managed and plugged in at just the right time. This results in less drafting and more design in BIM than in any traditional design-bid-build process.

Internet and communication technologies which support global telecommunication networks have the potential to decrease global inequalities, since technology now allows labor-intensive components of production to be unbundled and sent where they are cheaper (Kehal, 2005).

2.3.3 *Global outsourcing and employment*

On the employment front, there are two schools of thought: Either that outsourcing is leading to massive unemployment, or that it does not (Dorgan, 2006), (Hira and Hira, 2005). The U. S. labor shortage is expected to reach its peak between

2010-2015, as baby boomers retire and millions of jobs will be left unfilled (Gordon, 2006). This shows that whether or not it has a negative effect on employment opportunities in the U.S., there is a definite need for skilled labor which offshore outsourcing promises to provide.

Atul Vashishtha (2006) in his book *The Offshore Nation* claims that:

"Outsourcing is a trend that will continue to grow unstoppably…… If you have a 5 year or even 1 year business plan that does not include globalization of services, throw it out or rewrite it, or you will be written off…."

Outsourcing is not only here to stay, its use is expected to increase dramatically in the years to come (Corbett, 2006), (Vashishtha, 2005). Tracing back the trends in manufacturing, information technology and now business processes, it is evident that top professional service positions, and not just grunt work jobs, are being shifted offshore. These include jobs in architecture, engineering, consulting, and medical services (Vashishtha, 2006). Although the existing literature indicates a shift in the nature of outsourcing, from procurement of support activities to that of more critical functions, no formal resources have been developed for the AEC industry (Kehal, 2005).

2.3.4 Role of technology

Technological barriers to trade and communication are diminishing (Freidman, 2006). International telephone costs and satellite utilization charges have fallen tenfold between 1970 and 1990. With this context, the percentage of firms transferring drawings electronically has risen dramatically, at least in the United States, where it grew from 35 percent in 1996 to 83 percent in 1999 (Dalal, 2000).

The socio-technical leap spurred by information technology is critical to understanding outsourcing and must be highlighted. Traditionally, it was difficult for architectural firms to set up a true geographic division of labor in order to take advantage of wage differentials (Tombesi and Dave 2003). The uncertain and interdependent nature of the building process requires architects to feed project participants with architectural and constructional drawings for constant discussion and modification. This explains the spatial proximity between the architectural front office and the drafting room, or between the room and construction site. Historically, architectural firms seldom operated beyond the terrestrial limits defined by their physical transactions. This geographic limit was essentially the space in which drawings could be exchanged in a reasonable amount of time between architect, client, suppliers and construction people (Tombesi, 2001). Invariably, the limits were expanded by establishing a satellite office or associating, on equal grounds, with a local firm in charge of documentation and site administration.

Today the scenario is different. Computers allow for a more efficient standardization of notational practices (possibly reducing cultural differences between distant design operators), and electronic links now enable the transfer of documents across space in a much expedited fashion. This obliterates the need for physical contiguity between the areas of drawing production and areas of drawing use.

Global data connectivity enables the extension of a work day. The product of daytime activity in United States can be (and is in fact) transferred at night to India's mornings, and so forth, in a theoretically endless loop. As William Mitchell points out:

"The combination of rapid electronic delivery with convenient time zone differences allows an effective new form of 24 hour shift work. International

architectural and engineering design firms can, for example, establish offices in cities approximately eight hours apart, then electronically hand off CAD files from one to the other in a continual circle around the globe" (Mitchell, 1999).

2.4 What to outsource and where?

The success of a global outsourcing business model depends largely on decisions about what to keep in house and what to outsource. The term "core competence" is important in connection with outsourcing decision making. Non-core activities have traditionally been labeled as prime candidates for outsourcing, but clear identification of activities as "core" or "non-core" remains a challenge, as it is subject to a firm's strategy. This strategy can change quickly (Click and Duening, 2005).

Many activities are critical to a business's operations but do not represent a differentiating competitive capability; that is, they are not core competencies. An apt example is construction drawing (CD) sets. Preparing CD sets accurately and on time is critical to the success of any project and eventually of the firm, but it is not a core competency. Such architecture support services are moving offshore. For instance, HWL International, a New York-based architectural firm, designs office complexes for upstate at their facilities in Shanghai, China. The Chinese architects use videoconferencing in lieu of face-to-face meetings, and are able to design to local building codes (Vashishtha, 2006).

The question then arises of *where* work should be outsourced. The following table throws some light on availability and feasibility of some options.

Table 2.1 Global business process outsourcing scenario

BPO Worldwide Scenario						
	India	**Philippiness**	**China**	**Russia**	**Canada**	**Ireland**
Government Support						**Ireland**
Labor Pool						
Infrastructure						
Educational System						
Cost Advantage						
Quality						
Cultural Compatibility						
Time/Distance Advantage						
English Proficiency						
	=	Low				
	=	Medium				
	=	High				

Source: Business process outsourcing worldwide contracts by vendor location in 2003-2004, International Data Group 2004

One of the biggest concerns of any industry is the expenditure on salaries. Table 2.2 compares the equivalent salary for same standard of living across countries like the U.S., China, India, Russia, and Hungary. This indicates the financial favorability of outsourcing to these countries.

Table 2.2 Salary versus standard of living in countries

Salary requirements for Engineers With Equivalent Standards of Living		
Country	**Purchasing Power Parity (PPP)**	**Salary**
U.S.	(1.0) X $70	$70,000
Hungary	(0.367) X $70	$25,690
China	(0.216) X $70	$15,120
Russia	(0.206) X $70	$14,420
India	(0.194) X $70	$13,580

Source: World Bank's International Comparison Program, World Development Indicators, World Bank Group, Washington D.C., 2002

Considering these statistics, major companies view countries like India and China as critical future markets (Kobayashi-Hillary 2006), (Jansen, 2006).

2.5 CAD outsourcing and India

India has one of world's ten fastest growing economies, with state-of-the-art technology and a mature outsourcing industry (NASSCOM, 2005). India exports software to ninety-five countries around the world and has the highest number of ISO-9000 certified software companies. The Indian context provides an opportunity to highlight analogies and differences between the recent growth of business process outsourcing and the export-oriented information technology industry.

The large and growing pool of skilled professionals has been a key driver of the rapid growth of Indian Information Technology Enabled Services (ITES). Two fundamental factors that are driving and enabling this trend are:

a) A favorable demographic profile

b) A large expansive and established network of academic infrastructure

The availability of outsourcing providers working at extremely low costs in India, and an abundant force of available engineers, has made this country rich in CAD outsourcing vendors. Michael Jansen, CEO of one of the largest outsourcing service providers believes, "With the kind of education system in the country and the emergence of a tremendous force of engineers, it is undoubtedly logical for the country to be a destination for CAD outsourcing" (Jansen, 2006).

CAD outsourcing services are a major sector where Indian firms have established themselves (Engardio, 2007). Leading firms in the United States, the United Kingdom and European countries are utilizing Indian talent in CAD services. These companies are experiencing the benefits of cost-effective production and expertise. As quoted from an articled published in one of the leading Indian newspapers, *The Hindu*:

> Sectors in India such as building industry, building services, mechanical engineering and architecture are already attracting business from foreign countries. In Indian firms, the raster to vector technology is being used for quick production. Hence, the foreign companies are choosing the Indian firms to outsource their business processes. The entire CAD industry is growing by providing more benefits to their Western counterparts.
>
> (Thehindubusinessline.com, 2004)

A major advantage India has had in software outsourcing over its potential competitors is the human link between United States and India. During the rapid growth in the field of information technology, a large Diaspora of Asians in the United States helped make business connections to other sectors. The Indian immigrants, trained and educated in United States, began to look back home for help in establishing a competitive edge (Vashishtha 2006). Similar situations can arise when architecture and landscape architecture students educated in United States look for talent in the home country to form their own start-up companies, collaborations or mergers. The AIA (American Institute of Architects) overseas member survey done in 2006 revealed that majority of international members were educated in United States before returning home. These members keep up their AIA membership while working and living abroad in order to maintain a network of US-qualified professional. This human link will further fuel the

practice of CAD outsourcing. Offshoring of CAD services to India will continue to grow because of:

1. Modern technologies.
2. High cost saving and improved service quality.
3. Fastest time to market by working round the clock.
4. Entry to large markets with high potential growth: many offshore nations are also large and growing markets for architectural services (Kehal, 2005)
5. Rapid growing pool of knowledge professionals that is technically talented.
6. English-speaking manpower.

2.6 Benefits and risks of outsourcing

This section points out the benefits and risks involved in outsourcing overseas. Further, it talks about the challenges faced by architectural firms while transitioning from traditional to outsourcing business model.

2.6.1. Benefits of global outsourcing

The ability to exploit labor markets in industrially developing regions yields clear competitive advantages. An article in *The Economist* ('Sliding Scales') showed that, while hourly compensation in the United States, United Kingdom, and Australian manufacturing sectors oscillated between USD 13 and USD 17, labor costs in Malaysia, Mexico, and the Czech Republic were set below USD 2 per hour. The Philippines reached USD 70 cents; Thailand, Indonesia, China, and India were well under USD 50 cents (Parker, 1998).

Wage-based saving is not the only advantage related to design services outsourcing. Availability of skilled manpower in developing countries is also an important deciding factor. CAD outsourcing enhances the flexibility to increase the available manpower whenever required. Moreover the addition of a CAD vendor to the process can increase the quality of the product (Katz, 2007). The other major advantage of outsourcing is that it allows a business to focus on its core activities. Global outsourcing delivers tangible and significant benefits in the following ways:

1. **Improved quality of service and efficiency:** A CAD outsourcing vendor would think of maximizing the profits by completion of projects before the allotted time, and would also keep check on errors and omissions. In general, those organizations that outsource report high levels of satisfaction within their staffs and from the clients they serve. These organizations also take a highly pragmatic, business-driven approach to training and development.

2. **Reduced employee turnover:** Secure jobs are often rare in many developing countries, and outsourcing jobs pay relatively well. Therefore, workers in developing nations tend to stay with employers for a longer period of time (Reuters, 2004). As a result, these long-term employees have more experience performing their jobs, while companies reduce their costs of new employee training.

3. **Reduced production time**: Using media and internet to distribute work to employees in different nations and time zones, firms can keep operations going 24 hours a day, seven days a week. Such continual production means that processes and products can be completed more quickly than if done exclusively at one office.

4. **Increased access to international markets**: In many developing nations, marketplace success is often a matter of knowing someone in that region. The profits from outsourcing could be used for further diversification and expansion. This could generate a newer and larger client base.

5. **Low cost alternatives and financial incentives:** Technical talent and facilities cost appreciably less in many areas of the world than they do in the United States. Also, many foreign nations offer significant financial incentives to relocate or establish businesses, technical service companies, and manufacturing operations. According to estimates projected by CADFORCE, outsourcing CAD services abroad promises substantial savings—up to seventy-five percent. Significant cost savings are possible because foreign personnel require much lower salaries than U.S. employees. An average American engineer gets $75 per hour, while engineers in India receive just over $25 an hour for performing the same job as well or better. An American call center employee can demand $12 an hour, but the counterpart in Indian is paid $3-4 an hour. The following table shows the percentage breakdown of expenditure on different items associated with global outsourcing of processes.

6. **Focus on core business:** A significant benefit of sending work offshore is focus on core business activities. Exporting non-core tasks such as preparation of construction documents, allows firms to concentrate more on important aspects such as interaction with client, design consultation, expanding services and marketing. JSA architects is a Utah based architecture, planning and interior design firm that has been outsourcing CAD work to drafting firm in Philippines since May 2005. One of the firm's employee, Tyler

Kirk describes his experience satisfactory and his role in the design process change from draftsperson to supervisor.

"Since our company started this outsourcing process we have been able to take on more projects. This has resulted in hiring more staff (interns included). Our current problem is that we cannot find enough quality intern architects to hire. I have realized that when a company outsources, the intern architect becomes more valuable and his or her experience is much richer.."

-Tyler K. Kirk, JSA architects, Salt Lake City

7. **Work force supplement:** Budget, staff constraints and seasonal fluctuation in workload in a typical design office is supporting the trend of using offshore outsourcing as a workforce supplement.

8. **Higher standards of technical workforce:** Resorting to cheaper labor markets allows the firm to apply higher standards in selecting its technical workforce. Moreover, this allows drafting firms to offer conditions of employment that are more stable (and thus professionally more qualified) than those offered in their western counterparts.

2.6.2 Risks of global outsourcing

Though the end product may be lucrative, the process and operational challenges of outsourcing cannot be disregarded. Some of the challenges and risks of offshore outsourcing are as follows:

1. **Languages and culture:** Risk arises from differences in language, politics, culture, regulations and work practices. This can potentially negate the main benefit of offshore outsourcing—reduced cost. These barriers make collaboration more challenging and can thus drive up cost.

2. Political climate: A significant source of uncertainty could be the recent escalation of tension between India and Pakistan, its neighbor. Although the conflict is beginning to cool, companies must still be wary. As a result of the political instability in India, more companies will start outsourcing to other countries, especially, China, Mexico, Russia and the Ukraine.

3. United States job market vulnerability: Offshore outsourcing results in loss of jobs in home country and hence leads to large scale unemployment. This trend is reflected in the following table 2.5, which shows the projections for jobs moved offshore by industry in the United States for the next five to ten years.

Table 2.5 Projected numbers of U.S. jobs to be moved offshore, by profession

Projected Numbers (X1000) of U.S. Jobs to be Moved Offshore, by Profession				
To Low wage countries- India, China, Russia, and the Philippines				
Profession	**2003**	**By 2005**	**By 2010**	**By 2015**
Art, Design	2.5	8	15	30
Architecture	14	46	93	191
Business	30	91	176	356
Computer	102	181	322	542
Legal	6	20	39	79
Life Sciences	0.3	4	16	39
Management	3.5	34	106	259
Office	146	410	815	1600
Sales	11	38	97	218
Total	**315**	**830**	**1700**	**3400**

Source: Near Term Growth of Offshoring Accelerating. Forrester Research, Inc., May 14, 2004

4. Manpower policies: Whenever jobs are lost to offshore suppliers, government and the private sector have to work together to help train displaced workers to improve their marketability. Employees have to move up from drafting to take on more design and

client contact aspects of projects (Vashishtha 2006). This is a significant human resource management issue. Firms that send work offshore must make sure that the latest technology is utilized, and that a constant learning curve is maintained for their domestic workers.

5. Immaturity of CAD outsourcing industry: Offshoring of design support services is fairly new, compared to information technology and other business process outsourcing. Bersin & Associates performed an extensive study, titled "The Economics of Outsourcing Training Technology and Operations." The study found that the market for business process outsourcing (BPO) is still immature.

The National Society of Professional Engineers (NSPE) has taken a stand against outsourcing engineer services, advocating tha companies outsource when talent cannot be found in United States. The stigma attached to sending work overseas is deterrent to the maturity of this industry. Poor service from a few CAD services providers has had negative repercussions for the whole industry, earning some Indian online drafting firms a reputation as producers of cheap, unprofessional services.

6. Extreme dependence on technology: It is believed that in many ways, information technology has made communication within this extended enterprise worse rather than better. Incompatible systems used by different disciplines create artificial barriers that never existed in the analog world (Demkin, 2004). The emergence of the Internet in the 1990s offered the possibility of connecting the project team over a network. Networked computing presents the opportunity to integrate information from many sources and then redistribute it to the points of execution where it is needed. But

any inability of software programs to communicate with each other becomes an acute liability (Demkin, 2004).

2.6.3 Challenges in global outsourcing.

Some of the major challenges faced by architecture firms while collaborating with overseas drafting firms are:

1. Transitioning in-house teams to accept a change in workflow.
2. Aligning expectations.
3. Spending additional time on review and management.
4. Communicating design intent comprehensively.
5. Imparting training on firm standards.
6. Inconsistent quality.
7. Difficulty in exchanging documents.
8. Maintaining consistent workflow for offshore team.
9. Confidentiality.

2.7 AIA International Committee, Offshore Outsourcing Roundtable Review

The American Institute of Architects (AIA) Offshore Outsourcing Roundtable, held at the Institute on September 25, 2006, drew more than thirty-five invited experts, practitioners, AIA leaders, and representatives of organizations and software companies to share their perspectives and discuss the challenges. The roundtable was sponsored by

the AIA International Committee and organized by AIA Director of International Relations Ellen M. Delage.

At the roundtable, participants voiced some of the concerns and unanswered questions about offshoring:

1. whether it will cause United States architects to lose jobs;
2. whether interns will lose necessary documentation training and experience;
3. whether the work will conform with firms' quality criteria; whether it poses potential insurance, liability, and security issues; and
4. how it fits within new models of integrated practice, including revolutionary technology such as BIM (building information modeling).

2.7.1 How much work is offshored and why?

The 2006 AIA Firm Survey indicated that about 40 percent of architecture firms outsource work at least occasionally, and eight percent of the firms that outsource have sent domestic project work offshore. In addition, based partially on Forrester Research findings, consulting firm Larsen Associates has projected that within two years twenty percent of firms will send work offshore, and that twenty to thirty percent of United States architecture jobs will be offshore by 2015. The Larsen survey, presented at the 2006 AIA National Convention, also found that costs ran from one-third to one-tenth of United States production cost when performed by offshore personnel.

While competitive advantage and cost savings are often cited as benefits of offshoring, more important drivers pointed out by the attendees were the need to manage

workflow to handle more projects on an ongoing basis, to handle peak periods, and to compensate for a domestic shortage of skilled junior architects and high-quality interns who have traditionally handled much of the documentation work.

2.7.2 What is offshored?

> "The more our work involves using technology to mediate conversations with people at different locations and with different professional domains, the more important it is for architects to take a position of leadership through their education and training and being able to envision, motivate, and produce results."
>
> -Erin Rae Hoffer, Autodesk

Work that has been going offshore includes construction documentation, renderings, electronic model creation, and drafting. Most client contact activities, however, are generally not transferable offshore. These include project management, design presentations, client coordination, marketing and networking, materials selection, construction activities, and interactions with government officials.

2.7.3 Outsourcing and future policies

The discussions covered overarching themes in each of five issue areas: education, training, responsible control, legal disclosure, and technology.

A. Education: foundation for the global future:

1) Foster an adaptive curriculum. The architecture curriculum should integrate design management, leadership skills, interpersonal relations, collaboration skills, and professional practice with design studio education. Practitioners should teach alongside

non-practitioners “to expose students before they’re interns to what it really means to be a leader and design manager and to collaborate with other professionals.”

2) Establish international standards. Given the global trend toward professional “portability,” there is a need for establishing international standards and a mutual recognition agreement that covers professional engineering undergraduate degrees in several countries

B. Training: how will internships change?

1) Offshore outsourcing might not be a major concern for Internship Development Programs:. Most firms will outsource only a fraction of their work, and BIM affects IDP more than outsourcing does because it changes the way work is accomplished. IDP needs continual refinement, not only in response to outsourcing but also in the normal review process. Global practice will require increased leadership, project management, interpersonal, business, and accounting and finance skills. IDP will retain construction document experience, but will emphasize knowledge-building, with health, safety, and welfare remaining a prime focus.

2) More information and data are needed: The AIA should ascertain with greater certainty how offshore outsourcing affects interns and IDP. The profession lacks hard evidence about whether offshoring practices eliminate the need for interns or reduce employment. The current effect seems more positive than negative, with good interns now in great demand, but the true impact at this early stage cannot be assessed without more data.

3) Clarify IDP language about overseas credits: Interns can get IDP training units from working overseas under a United States-licensed architect, but language in the IDP guide could be more specific about earning credits in a foreign environment. The manner in which interns get their IDP hours depends on the firm, and offshore outsourcing would not make it more difficult.

C. Responsible control: liability and quality

(1) Use technology to strengthen the process: Once the process of offshoring has established clear lines of communication between firms, technology can help ensure and enforce responsible control. It can track when documents are checked out by one side or the other, who has authority to make changes, and who has authority to check the documents. Technology also can help keep a record and audit trail of changes.

(2) Good practices create better designs and better buildings: Organizations such as the American Institute of Architects and National Council of Architectural Registration Board can gather and consolidate best practices in offshoring to educate members of the profession while also raising quality standards. These practices should be voluntary and drafted in an open-ended way that would not constrain the technologies and practice models of the future. Although legal compliance is not the major driver, these best practices may constitute strong evidence of the professional standard of care and thus could weave their way into the law if necessary as well.

D. Legal disclosure: to tell or not to tell?

1) Adhere to ethics, disclose if asked: Under most circumstances, the choice of an offshore sub-consultant poses no special disclosure requirement and would be treated like

the choice of any other sub-consultant. If the owner asks, however, the professional has an ethical responsibility to disclose.

2) Be aware of differing foreign legal requirements: Different countries have different legal requirements that would affect architects under that contract in that country, e.g., taxes on services.

3) Service contracts should address intellectual property and confidentiality: Enforceability of intellectual property rights and confidentiality is an important issue that may be more difficult to manage in a foreign country. Inclusion of pertinent conditions in the contracts with providers will be required.

4) Review the Contract Documents for suitability regarding offshore outsourcing: The (AIA) Documents Committee will consider that aspect during the next round of revisions.

E. Technology: making the remote connections

1) It's more than just BIM: The technology that both drives and enables the increase in offshore outsourcing also includes CAD, satellite-delivered technology for remote collaboration (for example, videoconferencing), analytics, translation software, and an expanding array of searchable databases and other knowledge resources.

2) Establish international BIM standards: Interoperability must be developed and enforced to ensure proper "translation" between differing software and hardware platforms, as well as to minimize the number of software programs required to work with owners, builders, and consultants.

3) Request or demand reliable international databases: There is a need for international standards for products and materials that architects, builders, and owners around the world can use.

4) Protect intellectual property: It is critical to establish ownership and protect the security of intellectual property, whether it involves proprietary software or the information that firms exchange over the Internet.

5) Technology may change work processes, but it is leadership that gets results: Architects' education and training should emphasize leadership, collaboration, and management skills.

6) Survey international technology providers: More data is needed about global trends in technology for architecture practice. Examine the surveys regarding international practice already conducted by the International Union of Architects. Survey technology providers in other countries to better understand global technological trends and practices in the design and construction fields.

2.7.4 Recommendations

Recommendations at the end fell into the general categories of data gathering, standards, leadership and collaboration, quality assurance, and security and liability:

A. Data gathering: Databases, research, surveys, and best practices are needed to

1. Track architecture graduates' career decisions.
2. Determine the impact of offshoring on staffing and IDP.
3. Generate knowledge resources on offshoring.

4. Find or create reliable international databases of products and materials.
5. Understand global technological trends and practices in design and construction.

B. Standards: In a global economy, United States architecture firms are best served by

1. "Substantial equivalency" of international educational standards.
2. Voluntary, open-ended "best practice" criteria for offshore outsourcing.
3. International interoperability standards for BIM.

C. Leadership and collaboration: The demands of global practice, including offshore outsourcing require:

1. Integration of project management, leadership, interpersonal, and collaboration skills into an adaptive architecture curriculum and IDP.
2. Effective training and communication procedures and strong working relationships with offshore service providers.
3. Mentorship of interns, both domestically and remotely, to succeed in offshore outsourcing and the transition to BIM.

D. Quality assurance: Responsible control of documents produced offshore is a legally untested area. Quality standards, therefore, drive measures to ensure and enforce responsible control with offshore providers. Clear lines of communication and technology support the control of records and changes.

E. Security and liability: Insurance, liability, intellectual property, and confidentiality concerns in dealings with offshore service providers have not been specific contractual issues except with government clients and some others on an ad hoc basis. Most individual firms currently treat offshore firms as any other sub-consultant. The AIA Risk

Management and Documents Committees will consider such aspects in future deliberations. Firms should currently address the following in service contracts, insurance policies, and discussions with clients:

a) Disclosure of offshoring practices when asked.

b) Enforcement of intellectual property ownership and confidentiality of information.

c) Awareness of foreign legal requirements, including taxes on services.

d) Coverage of vicarious liability for outsourced services, whether domestic or offshore. (AIA committee report on Outsourcing)

2.8 Global outsourcing and landscape architecture

"Landscape architect jobs are expected to increase due to a growing demand for incorporating natural elements into man-made environments, along with the need to meet a wide array of environmental restrictions….
…Employment of landscape architects is expected to increase faster than the average for all occupations through the year 2014. In addition to growth, the need to replace landscape architects who retire or leave the labor force will produce some additional job openings. Employment will grow because the expertise of landscape architects will be highly sought after in the planning and development of new residential, commercial, and other types of construction to meet the needs of a growing population. With land costs rising and the public desiring more beautiful spaces, the importance of good site planning and landscape design is growing. In addition, new demands to manage storm water run-off in both existing and new landscapes, combined with the growing need to manage water resources in the Western States, should cause increased demand for this occupation's services."

- The Bureau of Labor Statistics

Landscape architecture due to its inherent nature is conducive to private practice. More than 26 percent of all landscape architects are self employed. (Bureau of Labor Statistics). Outsourcing offers the advantage of better control over core issues and corporate handling, while laborious, time-consuming CAD work is conveniently done by

others. In the past, landscape architecture has been practiced locally. Technology, telecommunication and transportation have provided the necessary tools for designers to expand and provide services beyond their geographic boundaries. Firms of any size can access global markets. Factors that could lead to more global outsourcing in the landscape architecture profession include:

1. Landscape architecture is considered a well-paid profession. Hence the labor and professional expertise in the United States can prove expensive, leading to encouragement of outsourcing.
2. Shortage of skilled professionals: There has been a tremendous growth and awareness about landscaping in the past few years. This has helped the profession to expand and prosper. But the number of landscape architecture students graduating every year is still very limited. There is currently a gross lack of labor supply, which again encourages outsourcing talent.
3. Government policies: These have changed substantially, moving landscaping from a supplementary frill to a necessary requirement on larger and larger projects. Given limited resources and an upsurge of landscape architectural projects, outsourcing promises rapid turnaround and cheaper solutions to meet this demand.
4. Private practice: Compared to other industries, the building industry is highly fragmented (AIArchitect, 2006). Most of the projects are undertaken by temporary, project-based organizations consisting of many small firms: architect, landscape architects, engineer, and contractor (Demkin, 2004). The temporary and

fluctuating nature of work flow makes landscape architecture suitable for offshore outsourcing. Instead of hiring employees when work flow is more and firing them later, the extra seasonal workload can be managed by an offshore CAD services provider.

2.9 Case studies

This section summarizes case studies of two major architectural outsourcing firms based in United States and providing services all over the country. CADFORCE and Satellier were chosen for the study because of their prominence in the industry and their use of cutting edge technology.

2.9.1 CADFORCE and blendshoring

CADFORCE Inc. is a California-based architectural services company that outsources CAD work to India. It has raised $3.1 million in venture capital to grow its business big enough to serve builders, architects and planners. CADFORCE currently has 350 clients in 30 states; about 70 percent of its business is with architects and 30 percent with builders.

With the housing downturn and the drive to cut building costs, more builders are looking to send more of their drafting offshore. CADFORCE says it can save up to 75 percent of the costs of producing construction documents. Also, the time difference between North America and India allows “us to draft while you dream,” as claimed by the president of the company *(Big Builder, Jan. 2007).*

"The demand we are currently experiencing has surpassed all of our projections. Architects are coming to us from every corner of the United States."

- Robert W Vanech, President, CADFORCE

The company has about 45 employees in the United States, many of them architects who collaborate with the Indian drafting team of 150 in Kolkata and Hyderabad, India. The company is planning to increase its United States workforce to 300 and its Indian staff to 3,000 in the next three years.

CADFORCE workspace allows collaboration as well as file transfer. Files can be marked up on the website without requiring any special software. The technology to make that work is extremely complex and cutting edge.

CADFORCE has used 'blendshoring' to combine foreign labor and American expertise in architecture. Offshoring labor-intensive manufacturing work and call centers has been going on for decades, but only in the last five to 10 years has outsourcing of professional work has gathered steam, thanks to the spread of the Internet. And even now, only a small fraction of this work is done overseas. CADFORCE took off as architecture firms were looking to save money during an economic slowdown.

A major drawback that emerged from global outsourcing was inaccuracy in drawings. While the Indian workers could convert drafting instructions to computer-based designs of buildings, there were many mistakes in the process. For example, the offshore architects were not familiar with common United States construction terms such as "two-by-four."

To get a handle on this problem, CADFORCE hit upon a new approach: “blendshoring,” the constant teaming of Indian architects with counterparts in its United States office using collaborative websites.

The President of CADFORCE, Mr. Robert Vanech concedes that offshoring, or “blendshoring,” is not a panacea. Rather, it is a niche that helps some companies cope with periodic work crunches.

2.9.2 Satellier’s Workshare: New practice model

Outsourcing may be a popular solution for clients and service providers, but the standard model is best suited to repetitive, formulaic tasks that can be performed according to preset schedules and protocols, with little or no participation of the worker in determining the process and its outcomes. While such a mechanical process is well suited to the fields of communications and marketing, the AEC industry, which requires a greater degree of skilled input, domain knowledge, and design development responsibility from its workers, has found the standard model of outsourcing inadequate and risky.

According to Michael Jansen, CEO and president of a Chicago-based CAD services company Satellier, workshare is the next generation solution for the AEC industry. Teams of skilled workers on both sides—the clients and the service provider—define their collaborative work process and perform their tasks in a coordinated manner, sharing the responsibility of producing desirable and profitable results.

In workshare, architectural firms separate their core operational processes from their non-core support processes, and then utilize their workshare partners to perform the non-core functions for them. The client and the service provider become partners in a given project, synergizing resource and manpower and achieving mutual benefits. Satellier believes that the key influencers of change are: globalization, process innovation, intelligent and integrated buildings, competitive pressure, speed-to-market, and building informational modeling.

2.10 Summary

Information technology now presents an historic opportunity for process reform in the building industry (Cohen, 2005), (Demkin, 2004). Offshore outsourcing is taking the benefits and risk of outsourcing to the extremes. It allows companies to reach the best skill sets at the lowest cost. At the same time, the intensity of risk rises with challenges in coordination, communication and control due to distance and cultural divergence (Kehal, 2006).

Many designers are uncomfortable with the rate of change in business processes. Globalization and technology will continue to redefine the practice of architecture in terms of the mix of services, in both developing and newly industrialized countries. Despite the risks and drawbacks, offshore outsourcing will remain an attractive solution to many industries. The geographic subdivision of the design process is an important element to consider for future architectural practice, because it contains the seed of a fundamental restructuring of professional work.

CHAPTER 3

METHODS OF RESEARCH INQUIRY

3.1 Introduction

As stated earlier, this research explores the effects of global outsourcing on design professions in general, and landscape architecture in particular. Qualitative methodologies were chosen for this study because they allow an interpretative, naturalistic approach to the subject matter (Denzin, 1998). Two independent approaches were chosen to comprehend the subject matter. The first part of the research enquiry consists of interviews with key informants. The second part is a comparative study of traditional versus outsourcing business models, with respect to landscape architecture.

3.2 Research design

The qualitative approach of standardized, open-ended interviewing of key informants was the data collection process utilized for this research. This format allows for immediate follow-up and clarification (Marshall and Rossman, 1995).

3.2.1Interview with key informants

Key informants are individuals with first-hand knowledge of the topic of the research. They are considered by their peers to be well informed, influential and prominent members of a community or organization. Key informants often contribute insight and meaning to the interview process because they are intelligent and quick-

thinking people, at home in the realm of ideas, policies and generalizations (Marshall and Rossman, 1995).

A set of open-ended interview questions was used to allow as much breadth as possible in the subject's responses. A smaller, focused sample of subjects was chosen rather than larger random samples Subjects were consciously selected from broad range of backgrounds to vary the type of people interviewed and uncover a full range of perspectives (Bodgan and Taylor, 1994). Twelve key informants were contacted via telephone and nine were interviewed.

The objectives of the interview were to:

1. Gather facts from each interview subject about how and what they outsource (or not).
2. Observe their views on how outsourcing is affecting their business, revenue, customers, and daily operations.
3. Capture their comments on some of the believed benefits and risks of outsourcing, with respect to landscape architecture.
4. Capture their perception on some of the current issues and future trends they think will come into play in the practice of outsourcing.

For this study, key informant interview subjects were selected from references in literature, as well as inquiries to leaders in the profession about who they considered important sources. The criteria for selecting the subjects were:

1. Their position within a relevant professional society or organization.
2. Their willingness to participate in this study.

3. Their knowledge, experience and understanding of the subject matter and issues explored in this study.

Brief descriptions of the nine interview subjects follow, in the chronological order in which the interviews occurred.

1. **Abhilash Varghese,** Senior Architect and Assistant Manager Sales, New York Branch, Satellier LLC. Satellier is one of the leading American-owned offshore providers of CAD documentation, three-dimensional modeling, and Building Information Modeling services. Headquartered in Chicago, Satellier maintains a studio in New Delhi, India, where technical work is executed. With over 300 professional architects, interior and furniture designers, building engineers, CAD operators, 3D artists and animators, IT technicians, executives and administrators on staff, Satellier forms strategic partnerships with leading design firms, 3D graphics firms and construction companies the world over to service their specific production needs.
2. **Samuel Jones,** Senior Landscape Architect, GSBS, Fort Worth, TX. Samuel Jones has degrees in horticulture and landscape architecture. He is been working at the firm's Fort Worth office for over eight years. GSBS is a multidisciplinary firm of eighty-four people with offices in Salt Lake City, Utah and Ft. Worth, Texas, committed to contributing to its profession and its community. GSBS principals and staff have played many roles in the local, regional, and national American Institute of Architects.

3. **Jason Harris,** Business Development Manager, Gregory Lombardi Design Inc., Cambridge, MA. Gregory Lombardi Design, Incorporated is a landscape architecture firm based in Cambridge, Massachusetts, specializing in highly detailed design for private residences and commercial clients. Jason Harris is the business development manager of the firm. He has a business degree and has been with GLDI for more than six years.
4. **Indranil Hira,** Senior Architect, head of the architecture department**,** Bluent Solutions Pvt. Ltd., Houston, TX. Indranil Hira is the head of the architecture department at Bluent. He has a degree in architecture and four years of experience in CAD outsourcing. Bluent Solutions is a business process outsourcing (BPO) company which provides comprehensive offshore outsourcing solutions to its global partners in United States and Europe.
5. **Philip Neeley,** Senior Landscape Architect**,** Carter and Burgess, Dallas, TX. Philip Neeley, ASLA, is a senior landscape architect in the Urban Design & Planning Group of Carter and Burgess, Inc. He has more than 20 years of experience in a wide range of park and recreational planning and design, and has been with Carter & Burgess his entire professional career. He is active in numerous professional and community organizations, including the American Society of Landscape Architects, the National Recreation and Park Association, the Rails-to- Trails Conservancy, and the Texas Recreation and Park Society
6. **Sudhir Gupta**, President**,** Dimension ICAD, Plano, TX. Sudhir Gupta is the president of a Dallas-based CAD outsourcing firm. With studios established in

India, they cater to many design firms and specialize in digitization of government projects. In addition to architectural support services, Dimension ICAD also provides services to engineers, the construction industry and related business process customers.

7. **Karen Koerth,** Associate, RTKL. RTKL is a full-service planning, architecture and engineering firm with offices all over US and international locations such as Spain, Korea, China and Japan. Karen Koerth assists the firm's Planning Group with facilitating project staffing.
8. **James Katz**, Vice President, CADFORCE, Marina Del Ray, California. CADFORCE is one of the national leaders in outsourced production services for architects and engineers with domestic offices in California and studios based in India. Mr, Katz is the vice president and one of the founding members of this company.
9. **Randy Steiner**, Vice President, Marketing & Communications CADFORCE, Inc. CADFORCE has over 350 customers in over 30 states, including architectural and engineering firms of all sizes. Based in California, Randy Steiner manages the marketing and expansion of the firm.

These key informants, comprising outsourcing professionals, entrepreneurs, architectural services providers and landscape architects, can give first hand information about day-to-day issues involved with global outsourcing.

3.2.2 Business models: A comparative study

A study of a traditional business model for a typical startup firm was undertaken. This model was then compared to an outsourcing business model. This comparative study was done by preparing two business plans, one using global outsourcing as a business model, and the other using in-house employment. This study helps to better understand day-to-day affairs, cash flow, and a company's overall direction towards achieving profitability, in a very detailed fashion. Further, this study also aids in critiquing and validating facts gathered from the literature review and interviews. Such a comparative analysis gives a clearer awareness of how outsourcing changes aspects of human resource, data management, profit and loss figures, and other issues internal and external to a firm's business. The comparative study of two business models allows cross-validation of the financial, operational and cultural issues related to global outsourcing, as reported by the interviewees.

The business planning process, in addition to reviewing the possibilities of global outsourcing as a business technique in landscape architecture, explores the practical issues associated with actually running an outsourcing business. Many financial, management and operational subtleties cannot possibly be covered comprehensively through the interviews only. This is due to the constraint on the details that an interviewee can offer—partly due to limitations on interview time, and partly due to company confidentiality policies. A hands-on personal exercise like preparing a business plan plays an important role in completing the study, by analyzing the benefits and drawbacks of global outsourcing in a more realistic scenario.

3.3 Summary

A qualitative approach allowed for richness in the data, because each interviewee provided their personal description or version of the phenomena. Analysis of the descriptive data yielded major themes and influences. Interview data were then abstracted into themes and considered in relation to the broader context, and validated with other research methods employed for this study. Cross-validation of data from different methods of research—interviewing, a business model study and literature review—provided the basis for creating a comprehensive research analysis.

CHAPTER 4

RESULTS

4.1 Results from interview

Various professionals in the field of landscape architecture and related disciplines were interviewed to share their views and experiences in offshore outsourcing. They had either first-hand experience in dealing with global outsourcing and/or overseas operations, or had a general idea about the practice, or both. The questions put forth to these professionals were aimed at:

1. Obtaining and understanding their opinion on global outsourcing.
2. Obtaining and understanding the procedures and company policies they follow while dealing with outsourcing.

Nine professionals were interviewed, who belonged to such leading architectural and landscape architectural firms as GSBS, RTKL, Carter and Burgess, and Gregory Lombardi Design Inc.; as well as architectural support services providers such as CADFORCE and Satellier. Two out of the nine were email replies, and seven were telephonic interviews. The following two sections are analyses of these dialogues.

4.2 Opinions towards outsourcing

Depending on the population interviewed, the sample set of interviewees were placed into four theoretical quadrants, as shown in the following figure:

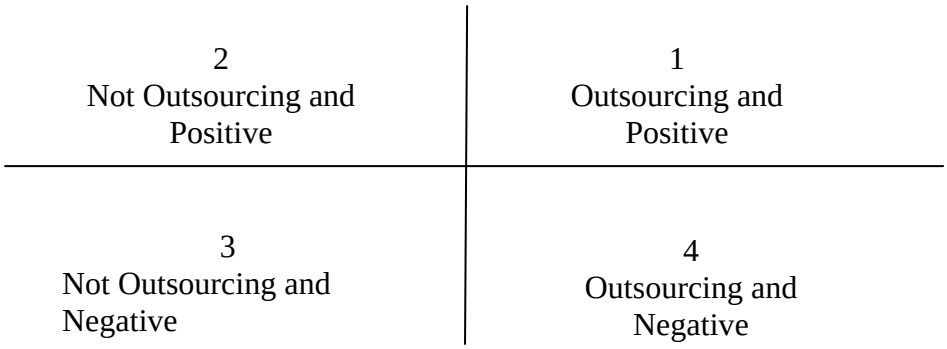


Figure 4.1: Distribution of offshore outsourcing opinions

The majority of the interviewees belonged to the first quadrant. This means that they are very contented with their outsourcing and encourage the practice. Satellier, for example, claims to have worked with 70 to 80 different companies in the past 5 years as their outsourcing clients. One interviewee from Lombardi Design Inc. belonged to the second category; they outsource locally, providing an insight on the potential benefits of outsourcing, but are not involved in offshore outsourcing per se. One interviewee from Carter and Burgess belonged to the third category. He does not feel that global outsourcing could be beneficial (though other firms have demonstrated otherwise), and will not pursuing it, at least in the near future.

4.3 Issues in outsourcing business processes

All the respondents shared their views and provided information and insight on how some of the issues related to off-shore outsourcing can be handled, either based on their experience with outsourcing, or simply as professionals in architecture or landscape architecture. The following section elaborates on issues related to outsourcing.

4.3.1 What should be outsourced?

Various firms typically outsource drafting work in CAD. More often, as in case of GSPS, they hire offshore firms for assembling basic informational databases, reconciling master planning work and surveys from multiple sources, and developing graphics. As reported by one of the respondents, Mr. Hira of Bluent, three things are involved in a design project: schematic drawing, design development and construction documentation. At Bluent Solutions, only construction documents are outsourced to India. Bluent is an India-based CAD vendor which receives business from design and construction firms in United States. Mr. Hira clearly stated, "We do not "decide" the design, even if we are capable of it. What we apply day-to-day is only our software skills. The United States-based client does all the designing and planning."

So in this case, the design firm does not outsource its design, planning and core expertise to any other firm inside or outside the country. As confirmed by Mr. Harris of GLDI, "The technical, less subjective work can be offloaded to any cheaper options." On the other hand, Mr. Neeley from Carter and Burgess expresses strong reservations about the quality of the end product, as well as about losing control of the process. This is one reason why this firm is reluctant to outsource.

A company must find a definite line of control. Any processes falling beyond this line can be safely outsourced to cheaper operations, and operations within this line should be kept in-house to ensure quality and management control. Once the core competencies are identified, figuring out what to outsource becomes easier. There are various ways in

which offshore outsourcing of that work can be implemented. As reported by Mr. Varghese, there are two models used at Satellier:

1. The project model, in which certain number of junior staff will be allocated to a particular project. These employees recruited by the offshore vendor will be dedicated to a specific project.
2. The studio model, in which certain number of junior staff will be dedicated to a particular client. A client is the United States-based company that has collaborated with this vendor, with which these junior staff members are working.

The project model is suitable for a rigorous, long-term project that is unlikely to have a hold on it. If it goes into a holding pattern, then the employed junior staff will have to be paid, even in times of no productivity. A studio model, on the other hand, makes sure it is dedicated and at the disposal of the United States-based company, and adapts itself to their standards and work methods.

4.3.2 Handling time zone differences

One of the first questions to arise while dealing with offshore outsourcing was the issue of different time zones. It was interesting to discover that whether it is the United States-based companies like GSPS, or CADFORCE, or India-based companies like Satellier and Bluent, neither end has any operational issues with time zoned. Even Mr. Neeley of Carter and Burgess, whose firm currently does not outsource, believes that time difference issues would be unlikely to create problems if it expands its business overseas.

Since communication tools like email and FTP are not affected by the topographical location of either party, this aspect is one of the least significant factors affecting the decision to outsource or its implementation.

4.3.3 Selection of vendor

The most important criteria for selecting vendors are experience in the market and local base in the country. Mr. Hira added that it is very important that legal issues can be handled well with that particular vendor. While Mr. Jones of GSPS believes that the vendor must be able to deliver per company standards, Mr. Steiner of CADFORCE stresses that vendors must be well managed and not create barriers of culture and language differences.

Mr. Varghese of Satellier considered following criteria to be essential when selecting a vendor:

1. Credibility
2. Core strength
3. Communication

Further, Ms. Koerth preferred a vendor with a landscape architecture background over someone from an architecture-only background. Mr. Harris of Lombardi Design made an important point: that basically, a vendor must work up to the expectation and ethics of the client company.

4.3.4 Communication and data transfer

Whereas the United States-based firms and their offshore teams largely use emailing and phone calling as primary sources of communication, many firms use more advanced means to smooth their processes. For example, Satellier employs GoToMeeting® software, which creates a real-time audiovisual arena where participating parties can collaborate. Some of the features of GoToMeeting® worth mentioning are:

1. Drawing tool: Tools to draw, make redlines, and save changes, as well as view these changes being made in real time.
2. Saving text and audio conversations and presentations.
3. Desktop sharing, allowing particular files or programs to display to all participants.

Such cutting-edge tools aid in outsourcing, while global collaborations like outsourcing in turn encourage development and advancement of these real-time communication tools. Mr. Hira adds that "(one party may) stay a bit late and the other comes in early if there is a scheduled phone call" to communicate certain details of the project. But this is required very less. Emails do work most the time." CADFORCE depends primarily on emailing, but GSPS employs a representative in-house who relays communication from the management in United States to junior staff in the Philippines. While Mr. Hira actually put it into words—"Everything is so systematic (and) well-coordinated that operations are very smooth"—this trend was demonstrated by all respondents who outsource.

As far as data transfer is concerned, FTP servers have become very popular due to fewer restrictions on file size, speed, and convenience. CADFORCE drafters employ a software application called CADFORCE Workstation® to upload drawings, so they can then be accessed by other people. As reported by Mr. Harris of Lombardi Designs, CD-ROMS could well be used as a convenient data transfer medium, especially when dealing with local collaborators. Interestingly, while skeptical about communication and data transfer in outsourcing, Mr. Neeley of Carter and Burgess Inc. noted that the company does use FTP servers for file transfer, even though they do not outsource offshore.

The format in which data is communicated is also an essential issue. Some of the formats used are image formats like jpeg, bmp, tiff, pdf or dwg files. It is a very common practice to send scanned initial drawings in jpeg or PDF format. Mr. Hira of Bluent said, "We try to be very flexible in this aspect with the client. Whichever format they are comfortable with will be used by us."

4.3.5 Human resource management

One of the classic theories of resource classification was observed from the practical experiences of these respondents. The theory is that when drafting and drawing skills are outsourced, the in-house staff can develop themselves as managers dealing with a multidisciplinary and multicultural staff. Training and validation requirements might have to be enforced in order to ensure acceptable delivery from the CAD provider. Mr. Varghese of Satellier mentioned a month of training being given to new junior staff, so that they can deliver to the expectations of United States-based firms. Mr. Harris notes

that “being in the firm’s management, (he) realized that (the) burden of staff management gets offloaded to someone else. Also, standard operating procedures of the company will have to be changed, but that is a one-time thing.”

4.3.6 Advantages of global outsourcing

The respondents pointed out some of the main advantages they are experiencing from outsourcing. These are as follows:

1. Higher Profitability. Due to staffing from low-cost nations, the wage differential goes to the advantage of the United States-based firms. Mr. Varghese of Satellier said, “One of our clients has reported a 1.5 million USD increase in profit by working with us (One client) has shipped only 4% of CAD work to India and is planning to grow to 30% in next 5 years.”
2. Junior staff development as emerging leaders. Outsourcing allows new hires to consume less time generating drawings, and more time developing themselves as managers. Mr. Varghese of Satellier pointed to an AIA survey: “These interns and junior staff have grown up their learning curves, to basically act as managers to deal with these offshore clients.”
3. Distribution of labor and burdens. Outsourcing leads to a definite and confined set of burdens on the in-house staff. Mr. Steiner of CADFORCE said, “(the workers) in India have no headaches of designing and creativity, and they do whatever is told to them. At the same time, the human resources over here don’t have to fight with menial drawing and printing, (since) it is outsourced.”

4. Higher daily turn around. Once the United States office has assigned certain tasks, the offshore office in a different time zone can start working on it while the domestic office sleeps. On the next business day, some project work has already been completed and is ready for preview. This phenomenon is actually being exploited by the companies that the respondents represented.
5. Better management focus. Firms are experiencing better core management focus. This focus, combined with higher profitability, is giving them the ability to undertake more projects, thereby increasing employment. Mr. Harris admitted, "I would say as a manager of 15 designers (that) half of my time is involved with dealing with the people issues related to managing expectations, careers, day-to-day performance, etc. When you outsource, you generally offload a good amount of that work to someone else." Mr. Jones of GSPS said, "It leverages your time efficiency in the long run because you do not do CAD work in-house; you throw it to some other entity. It allows you to spend your expertise in something more important than to just generate CAD drawings. Personally, I am able to manage more projects just because this CAD burden is taken away from me."

4.3.7 Disadvantages of global outsourcing

The respondents pointed out at some of the disadvantages they are experiencing while outsourcing. These are as follows:

1. Need to invest in training: As stated earlier, firms face the need to train junior staff to ensure that standards acceptable to the company are upheld.

2. Possible loss of quality control: Due to the remotely controlled nature of operations, a fear of work can only be ensured through good communication and tight quality checks. Mr. Neeley of Carter and Burgess expressed concern about lack of control on projects, and pointed this out as one of the reasons why the company is not interested in outsourcing.
3. Loss of jobs: There is a widely held belief that the tasks which pass into the hands of some other nation could have been used to employ junior staff emerging in the United States itself. This effect, if in fact true, may be offset by the probability that the profit created by outsourcing will increase the business of the companies involved, leading to increased overall job availability. Mr. Hira claimed that outsourcing will go on even if United States is losing jobs, because looking at the bigger picture, U.S. companies can generate more revenue through offshoring work.
4. Need for good communication: Without smooth and efficient means of communication, a long-distance operation would obviously fail. As Ms. Koerth of CADFORCE put it, “there is too much inter-coordination that needs to happen on projects, and outsourcing may (not be) conducive to that.” Mr. Jones admitted, “The most critical aspect I face is … if someone were sitting next to you, you could give them a little less information and still communicate well. It (takes) a little more time and effort to convey what I want to someone who is formatting the information for me, if that individual is at a distance.”

4.4 Results from study of business models

This section deals with two business plans, comparing and contrasting the financial, personnel, and operational details of both in order to understand the impact of global outsourcing. The study, conducted by the author, included the effects of global outsourcing on the standard operating procedures, human resource management, company structure, profit and loss at a landscape architecture firm. Outsourcing versus traditional business models were analyzed and compared using the following assumptions.

There are two hypothetical companies:

1. Firm A, based in United States and doing CAD work in house.
2. Firm B, based in United States and outsourcing CAD services to India.

Both the companies are start-up companies and provide landscape architectural services. For details on clients, see the Market Summary (Appendix A). Either of the firms is owned by a single owner, who manages junior architect(s). For further details of human resources, see Appendix A for the Personnel Plan.

The following figures outline the firms' personnel plans.

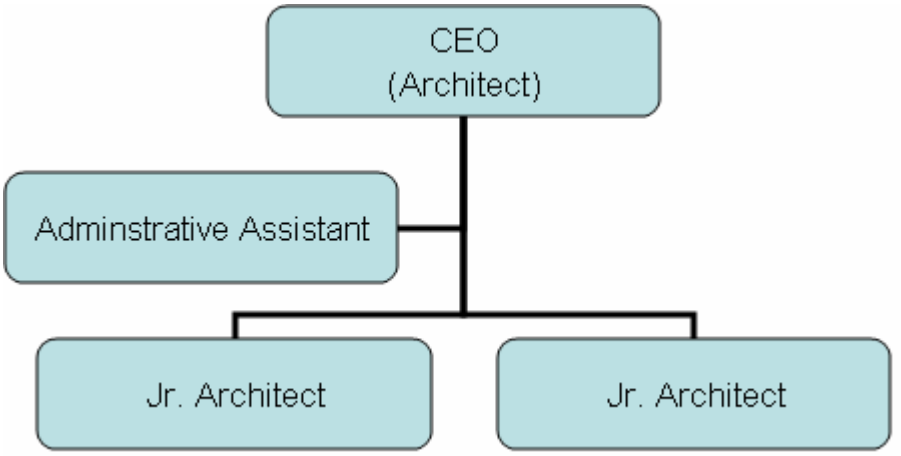


Figure 4.2: Firm A personnel plan

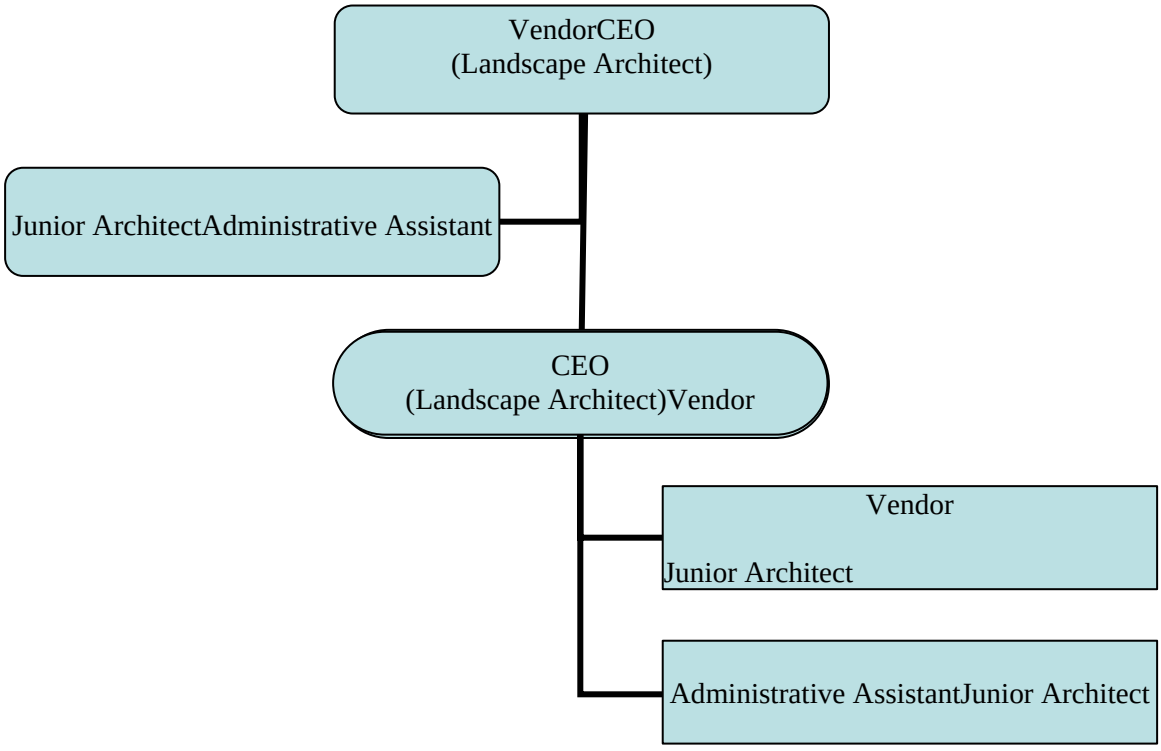


Figure 4.3: Firm B personnel plan

The major factors which helped Firm B to be more profitable than Firm A by means of outsourcing are:

1. Cheaper and more efficient labor.

2. Reduced or absent workspace expenses like rent, workstations, overhead, etc.
3. Reduction in employee-related expenses such as payroll and employee benefit management.
4. Availability of cheap communication and data transfer solutions like VOIP phones and use of the Internet.

As a landscape architect, the author sees the exploiting of cheaper labor overseas as an opportunity to:

1. Expand business with better revenue gain.
2. Create more managerial and design positions for landscape architects within the United States.
3. Thus not harming the employment prospects of landscape architects here in the U.S.

One of the significant observations observed during the course of building the business plans is that the majority of small-scale entrepreneurs are used to starting up a business by recruiting personnel in-house. Limited awareness and vision of the pathways towards implementing outsourcing have been a major factor explaining why outsourcing is not more common in landscape architecture private practice. Someone has to make a beginning, and many will learn and dare to follow.

4.5 Traditional versus outsourcing business model

The key difference noted between traditional and global outsourcing business models are:

1. Minimized startup expenses

1. Additional expenses due to outsourcing: These include communication tools necessary for overseas operations.
2. Employee benefits: A large saving of expenses registered by Firm B due to minimizing full-time employee liabilities.
3. Break-Even Personnel Plan: As a useful step in handling additional communications resulting from off-shore project execution, the part-time employee of Firm A will be replaced by a full-time administrative assistant in the firm.

The major factors which helped Firm B to be more profitable than Firm A by means of outsourcing are cheaper labor; reduced workspace expenditures for rent, software, workstations and employee benefits; and availability of cheap communication and data transfer solutions like VOIP phones and Internet. Exploiting cheaper labor overseas results in business expansion, with higher revenues and more opportunities for landscape architects within the United States to perform design and client services.

4.6 Summary

The scenario can be summarized in a sentence by Mr. Jones of GSPS: “Outsourcing is just an extension of our effort in trying to meet our client needs in terms of efficiency and cost.” Mr. Hira from Bluent expressed his strong positive opinion about

outsourcing by saying, “Only maybe a world war can stop outsourcing.” But there is still a large contingent of designers who would rather not outsource. This could be either due to a company’s policy of managing everything from design to delivery in-house, to ensure firm quality control.

Outsourcing is all about managing people who will manage data for you. The dividends reaped from this change are seen in the shape of higher revenue-earning capacity, better profitability and stronger core management. As Mr. Jones said, “Outsourcing is not much of a problem. It is just a change in mindset.”

CHAPTER 5

CONCLUSIONS AND FUTURE RESEARCH

5.1 Conclusions

While the debate whether to outsource business to offshore destinations continues, the percentage of United States business actually moving abroad continues to increase. Virtually two categories have formed across all the professions as far as global outsourcing is concerned: One is busy participating in this debate, and the other has already entered into the outsourcing business.

Global outsourcing, like any other business model, has positives and negatives associated with it. The way designers use this new business model will decide whether it becomes a tool for rapid business growth, benefiting themselves and the U.S. economy. To conclude, the ability to understand the consequences, to control the terms, and to manage the dynamics of this ‘unstoppable’ process could be one of the challenges—cultural and professional—that await designers in the near future.

5.2 Future Trends

Outsourcing, which began as a major cost-cutting move, has been slowly evolving into mainstream management practice in the construction industry. The future will differ in many ways because of rapid and unpredictable growth in offshore

outsourcing and new technology (Kehal, 2006). Few of the future trends that surfaced during the course of this research are as follows:

5.2.1 Emerging markets

New markets have emerged as a result of outsourcing work to international location. As an outcome of outsourcing, new secondary and tertiary level jobs are created. The cost of the services will become more affordable, thus broadening the consumer market. Firms will be able to speed up entry to new markets, while underserved markets may become more attractive (Vashishtha 2006). Thus more and more people would be able to afford the services of architecture and landscape architecture firms. A firm with access to local markets will win more projects and expand their practice overseas. This in turn would lead to "inshoring" of design to United States offices.

The industries facing extreme competition like manufacturing, software, and now architecture, have taken time to identify the opportunities of global outsourcing and weigh it against the risks. It is inspirational for landscape architecture to see how other industries have found ways to minimize the anticipated risks and reap the benefits, thereby making outsourcing an effective business model and a modern source of growth and prosperity.

5.2.2 *The 24 hour business cycle*

One of the biggest drivers of service globalization has been the advent of the 24 hour business cycle. Being in different time zones has developed into an advantage by speeding up operations, thus saving time as well as money. The productivity boost to the

average firm will be huge. As one shift ends in the United States office, another starts in Asia, and when that ends, yet another will start in Eastern Europe, or the Philippines (Vashishtha, 2006).

5.2.3 Economic opportunities for women

Women have had been disadvantaged in the labor force because of limits on mobility. Women allocate more time to the household, often during a critical period in their career. This lowers their productivity in the external labor market, and by reducing opportunities to learn remunerative skills, future earnings are lowered as well. Globalization and the Internet can reduce this waste of human potential, since they facilitate flexible working hours, remove location constraints, and make it feasible for women to maintain and upgrade skills (Kehal, 2006).

A wider range of better-paying jobs will become available to women as outsourcing centers turn to part-time workers, mainly women, for distant work. CAD outsourcing companies can utilize the pool of skilled women who have left their jobs for family reasons.

5.3 Suggestions for future research

A nationwide survey of landscape architects on global outsourcing could be conducted through ASLA's business indicator survey. Results of such a survey may help in understanding the influence of globalization on the practice and business of landscape architecture, and the reasons it is not yet widespread. More information is required to

better educate professionals about this new business practice. ASLA's publications such as LATIS (Landscape Architecture Technical Information Series) could publish a guide book on this subject.

One direction that can be studied is making an account of the firms which have previously outsourced, but have now stopped due to bad experiences. New design softwares such as Building Information Modeling are becoming popular with architecture firms. The use and effects of BIM on landscape architecture industry will be a valuable stuffy for the future.

APPENDIX A

BUSINESS PLANS

Firm A LLC.

Azra Khan

1000 Irving Blvd

Irving, TX. 75060

682 554 9480

Azra.Khan@FirmA.com

1. Executive Summary

Firm A is a Dallas/Fort Worth-based landscape architecture firm driven to provide low cost, sustainable landscape design solutions to clients across the United States. It will provide site analysis, planning, design, management and stewardship of built and natural environments.

Appealing landscapes play an important role in attracting customers and increasing property values. Unfortunately, many landscapes are not managed efficiently. This can increase maintenance costs, waste natural resources, and pollute the environment. With forethought and planning, "sustainable landscape practice" can help reduce maintenance costs while producing healthy landscapes and protecting the environment. With special consideration to sustainable practices coupled with low cost solutions in its designs, Firm A plans to reach out to new clientele with limited resources. Low cost solutions to landscaping will appeal to private owners or developers with low budgets and/or small or medium sized projects.

Firm A's design executions integrate aesthetic ideas with environmentally-friendly, inexpensive designs that match the needs of the client. The Firm's special focus will be to attract client who have low budgets and need affordable and low maintenance landscapes. The firm policies will always be to make landscape designs that cater to all ranges of clientele.

The clientele includes, but is not limited to, municipal governments, private residential owners, real estate developers, corporate clients, architects, engineers and allied professionals wishing to incorporate sustainable practices into their landscapes. Firm A aims to reach net sales of $80,000 by the end of first fiscal year, further growing to $100,000 by the end of second fiscal year.

The biggest challenge is market penetration, net profitability and payroll expenses. But well thought out, systematic resource management will maintain a positive margin and steady business through repeat clientele. With over 35-40 small to mid-size landscape architectural firms in the area, market competition is expected to be stiff. With limited resources and low operating costs, the firm will manage a low mark-up value, thus creating a competitive quotation conducive to market penetration and winning customers.

1.1 Mission and Key to Success

Various cities and counties across United States encourage the use of sustainable landscaping practices and have funded several urban landscape architects who can provide such expertise. The main modus operandi of Firm A in establishing itself as distinguished landscape architecture firm focusing primarily on two characteristics of designing:

1. **Sustainable Practices:** Firm A truly believes in protecting the natural resources, environment, cultural assets and heritage characteristic of a city or a region.
2. **Low Cost: Firm** A identifies that there is an entire class of people who can be potential clients only if it is demonstrated to them that they can afford it. Firm A wants to reach out to these people, to give landscape architecture a boundless applicability.

Firm A would work closely with other design professionals including architects, engineers, and planners to influence design decisions leading to sustainable solutions early on in the project phase. Keys to success for the Firm A will include:

1. Maintaining creditability and untarnished image in the community.
2. Personalized design solutions with efficient management.
3. Latest cutting edge technology for design solutions.
4. Skilled labor.

1.2 Services

Firm A services will combine knowledge of aesthetics, design, site engineering, construction detailing, and planting with low-cost, sustainable options, and use that expertise to guide our clients through a challenging and complicated process.

Services include:

- Site and environmental analysis
- Site suitability studies
- Developing alternative land use strategies
- Producing conceptual and master plan documents
- Providing construction documents and details
- Supervising the construction and bidding process for contractors
- Producing planting plans and specifications
- Protecting environmentally sensitive areas
- Protecting watershed and water quality
- Solving site drainage or hydrology problems
- Providing designs that comply with local or state regulations and codes

Whether in public places, residential projects, single-family housing, apartments, senior housing, or student housing, the services of firm A will offer people affordable options. Firm A will create inexpensive landscape design through:

1. Use of more natural materials.
2. Use of native plant palette.
3. Low maintenance.

2.1 Company Ownership

Firm A will be a Limited Liability Company (LLC) with a single owner and a home-based office with limited staff and work space. The CEO of Firm A has a Masters in landscape architecture with excellent management and creative skills. The junior landscape architects are specially recruited for their interest in sustainable design practices.

2.2 Start-up Summary

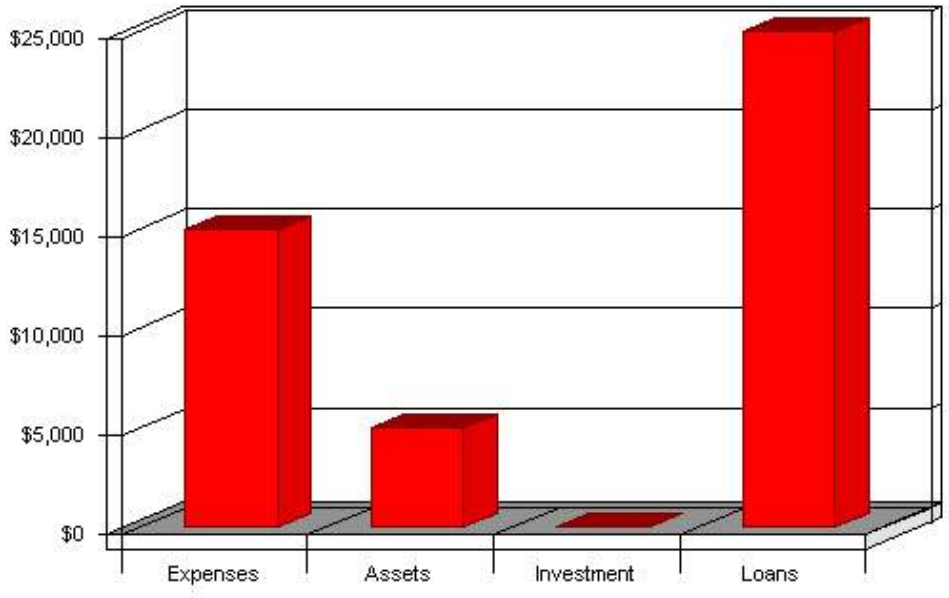
The first quarter is expected to be sustained by start-up money allocated for recruitment, work place setup and advertisement. The beginning of second quarter is expected to bring the first project in; hence the human resources and technology will be fully functional at the end of the first quarter. With current market research, it is expected that the first year will realistically be able to achieve $100,000 in sales.

Firm A start-up costs total $20,000. The major expenses include consultation fees and legal expenses to open an LLC (Limited Liability Corporation) in the state of Texas. Rental and furnishings expenses will be limited because the business will be based in the owner’s home.

Start-up	
Start-up Expenses	
Legal	$1,000
Consultants	$500
Insurance	$500
Rent	$1,000
Recruiting/Advertisement	$700
Software (Auto CAD)	$4,000
Hardware (Workstations/Workbenches)	$3,000
Security/Firewall Features and Additional supporting software	$1,500
10% Contingencies	$1,300
Website	$1,000
Others	$500
Total Start-up Expenses	$15,000
Start-up Assets	
Cash Required	$5,000
Other Current Assets	$0
Long-term Assets	$0
Total Assets	$5,000
Total Requirements	$20,000

Start-up Funding	
Start-up Expenses to Fund	$15,000
Start-up Assets to Fund	$5,000
Total Funding Required	$20,000
Assets	
Non-cash Assets from Start-up	$0
Cash Requirements from Start-up	$5,000
Additional Cash Raised	$5,000
Cash Balance on Starting Date	$10,000
Total Assets	$10,000
Liabilities and Capital	
Liabilities	
Current Borrowing	$15,000
Long-term Liabilities	$0
Accounts Payable (Outstanding Bills)	$0
Other Current Liabilities (interest-free)	$10,000
Total Liabilities	$25,000
Capital	
Planned Investment	
Investor 1	$0
Other	$0
Additional Investment Requirement	$0
Total Planned Investment	$0
Loss at Start-up (Start-up Expenses)	($15,000)
Total Capital	($15,000)
Total Capital and Liabilities	$10,000
Total Funding	$25,000

Start-up



3. Market Analysis Summary

Firm A will be focusing not only on commercial and retail clients, but also on public and private projects. Our other important groups of potential customers are medium to large AEC firms and corporations. These are architectural firms, civil engineering and/or surveying firms, urban planning, urban design consultants, etc.

Since more and more people in different sections of the community are now focusing on environmentally friendly and sustainable practices, demand for services is undoubted. At this point, low-cost technology and affordability is a market concern. This is what Firm A LLC aims to specialize in and eventually register its success.

Due to limited resources to analyze markets and a budgeted approach towards potential clientele, our market area will currently be comprised of the United States only. Through word-of-mouth recommendations and success stories in the long-term, Europe and Asia will be targeted.

4. Market Segmentation

Commercial and Retail: This will form the largest share of our business, since they essentially meet our focus of a minimal, sustainable landscape to fulfill city code requirements. This is the area where most of our target market is, for the following reasons:

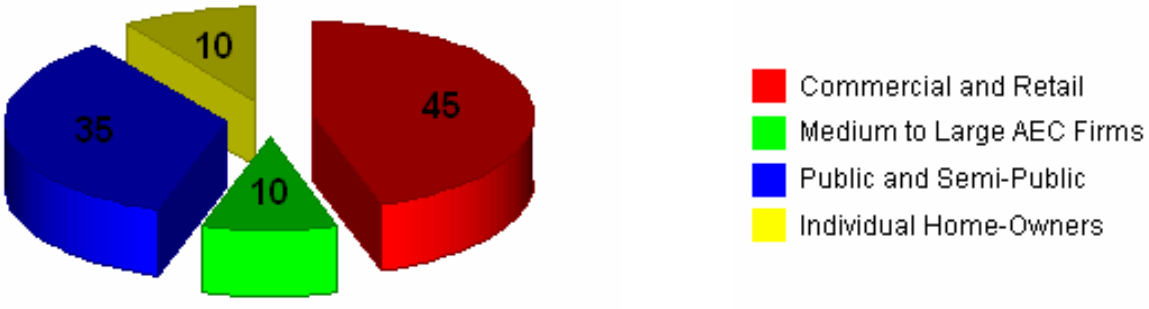
- Bigger volume of work
- Long term projects
- Prestigious and more publicized contracts.

Mid-size to Large AEC Firms (architectural, engineering and construction): It is not expected that such clients would form a major share of our business; though a part of a larger project might be obtained from such groups. There is the possibility of losing control over design principles when working with the AEC industry, as they may want cookie-cutter solutions. Thus, the business share from this group is expected to be low.

Individual Homeowners: Our marketing strategies will ensure we cater to residential clients who seek low-maintenance and low-cost sustainable solutions for their homes.

Public and semi-public projects: This will include city parks and plazas; churches, cathedrals, and monasteries; schools; and other such semi-public places.

Market Analysis (Pie)



1. Strategy and Implementation Summary

Winning clients will be tackled using the following pathways:

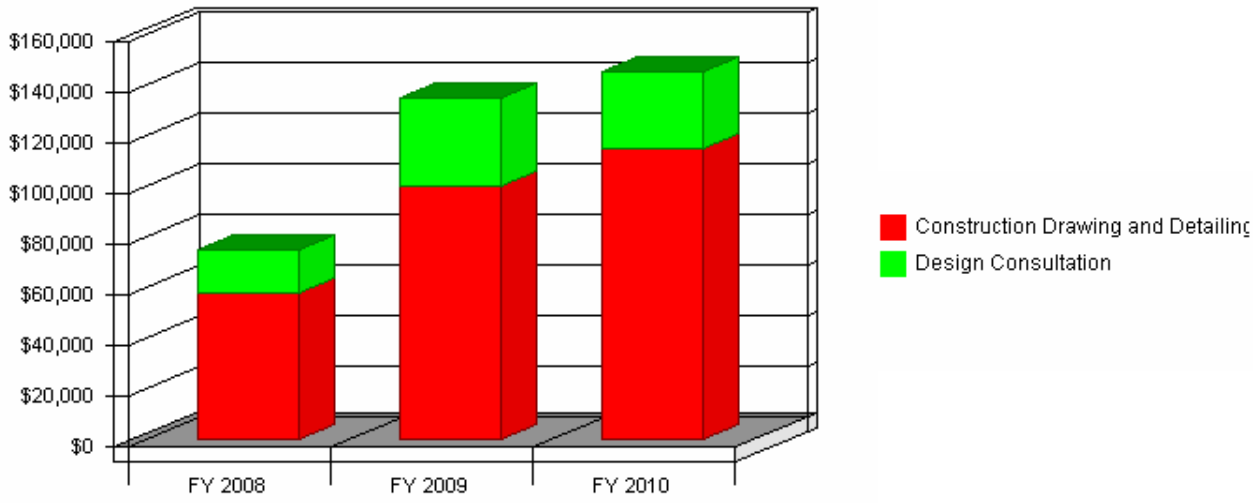
- Chamber of Commerce: Meeting face to face with professionals in allied fields and catering to each others' needs.
- World Wide Web: Includes Website, online forums, Internet brochures.
- Personal: Word of mouth as well as creating new contacts. Sharing business cards, brochures and portfolios.
- ASLA and other professional organizations.

The owner has a strong design and software background. In addition, an impressive portfolio is expected to be a winning factor for projects.

1.1 Sales Strategy

30% advance and 70% at delivery, no installment plans. Sales are broken down into two categories: design consultation and construction documents. These two categories make up one landscape architecture project. Design consultation comprises the initial part of the projects, whereas detailing and producing construction documents would take most of the time and dollar amount. The following table and chart provide an overview of our forecast sales. Actual sales could vary depending on the project size and budget.

Sales by Year



Sales Forecast			
	FY 2008	FY 2009	FY 2010
Sales			
CD sets and detailing	$70,000	$120,000	$130,000
Design Consulting	$5,000	$15,000	$15,000
Total Sales	$75,000	$135,000	$145,000
Direct Cost of Sales	FY 2008	FY 2009	FY 2010
Design	$1,000	$1,000	$1,000
Consulting	$0	--	--
Total Direct Cost of Sales	$1,000	$1,000	$1,000

2. Management Summary

The Firm is composed of the following personnel:

1. CEO

Primary Role: Marketing, administration, and filling the role of Senior Architect.

Education: M.S. in landscape architecture, licensed practitioner.

2. Administrative Assistant

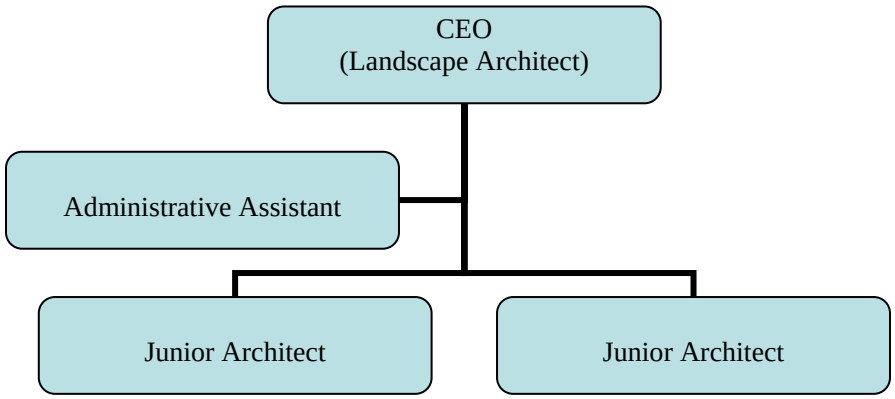
Primary Responsibilities: A part-time position handling internal secretarial issues like paper work, shipment, checking voice mails, and ordering supplies.

Education: A high school degree or GED, good writing and communication skills.

3. Junior Landscape Architect(s)

Primary Responsibilities: Hired either full-time or on contract. Reports directly to the CEO and works under the instructions and guidance of the same to create CD sets, preliminary design etc.

Education: Bachelors degree preferred. Experienced in AutoCAD designing.



2.1 Personnel Plan

The following table summarizes the personnel expenditures for the first three years of operation.

Personnel Plan			
	FY 2008	FY 2009	FY 2010
Designer1	$26,134	$41,600	$41,600
Designer2	$12,800	$41,333	$41,600
Administrative Assistant	$4,500	$6,000	$6,000
Total People	3	3	3
Total Payroll	$43,434	$88,933	$89,200

3. Financial Plan

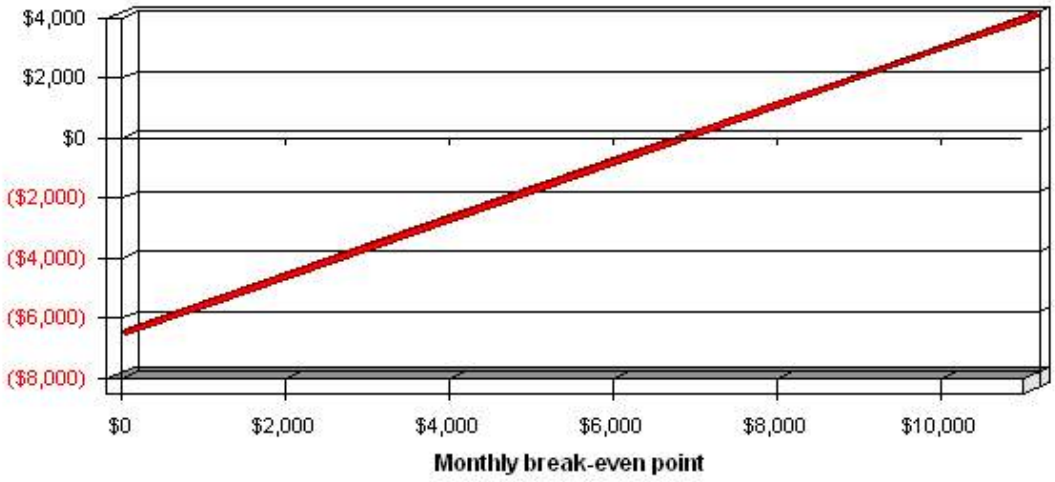
The break even for Firm A is about $5,300. With close to $6860 spent on payroll, with a mark-up of 3, around $20000 will be generated in revenue. The conservative mark-up is affordable due to limited overheads and low direct sales cost.

Average percent variable cost is assumed 5%. This includes sick leaves, system downtimes, weather, and similar factors hampering hourly productive output.

3.1 Important Assumptions

General Assumptions			
	FY 2008	FY 2009	FY 2010
Plan Month	1	2	3
Current Interest Rate	10.00%	10.00%	10.00%
Long-term Interest Rate	10.00%	10.00%	10.00%
Tax Rate	25.42%	25.00%	25.42%
Other	0	0	0

3.2 Break-even Analysis



Break-even point = where line intersects with 0

Break-even Analysis	
Monthly Revenue Break-even	$6,854
Assumptions:	
Average Percent Variable Cost	5%
Estimated Monthly Fixed Cost	$6,511

3.3 Projected Profit and Loss

The net profits for the first three years are about 11.11%, 5.65% and 7.14%. The higher first year net profits is due to conservative human resource, saving on payroll expenses, and hence the associated employee benefits and taxes. The second year is a low since all human resources are deployed and the clientele is still building up. After the first two years of transient fluctuations, the third year should register a more realistic and steady-state net profit, with all the technological and human resources deployed and earning the full potential revenue from the incoming business.

Pro Forma Profit and Loss			
	FY 2008	FY 2009	FY 2010
Sales	$75,000	$135,000	$145,000
Direct Cost of Sales	$1,000	$1,000	$1,000
Other	$0	$0	$0
Total Cost of Sales	$1,000	$1,000	$1,000
Gross Margin	$74,000	$134,000	$144,000
Gross Margin %	98.67%	99.26%	99.31%
Expenses			
Payroll	$43,434	$88,933	$89,200
Sales and Marketing and Other Expenses	$1,200	$1,500	$1,500
Depreciation	$120	$120	$120
Workstation Maintenance	$10,900	$7,000	$7,000
Utilities	$1,100	$1,200	$1,200
Insurance	$1,800	$1,800	$1,800
Rent	$11,000	$12,000	$12,000
Employee Benefits	$8,580	$16,560	$16,560
Other	$0	$0	$0
Total Operating Expenses	$78,134	$129,113	$129,380
Profit Before Interest and Taxes	($4,134)	$4,887	$14,620
EBITDA	($4,014)	$5,007	$14,740
Interest Expense	$1,500	$1,500	$1,500
Taxes Incurred	$0	$847	$3,335
Net Profit	($5,634)	$2,540	$9,785
Net Profit/Sales	-7.51%	1.88%	6.75%

3.4 Projected Cash Flow

Cash flow is vital to the well being of this firm because of the duration of payment. The following chart and table below show cash flow projections.

Cash

Pro Forma Cash Flow			
	FY 2008	FY 2009	FY 2010
Cash Received			
Cash from Operations			
Cash Sales	$75,000	$135,000	$145,000
Subtotal Cash from Operations	$75,000	$135,000	$145,000
Additional Cash Received			
Sales Tax, VAT, HST/GST Received	$0	$0	$0
New Current Borrowing	$0	$0	$0
New Other Liabilities (interest-free)	$6,000	$0	$0
New Long-term Liabilities	$0	$0	$0
Sales of Other Current Assets	$0	$0	$0
Sales of Long-term Assets	$0	$0	$0
New Investment Received	$0	$0	$0
Subtotal Cash Received	$81,000	$135,000	$145,000
Expenditures	FY 2008	FY 2009	FY 2010
Expenditures from Operations			
Cash Spending	$43,434	$88,933	$89,200
Bill Payments	$34,030	$42,889	$45,690
Subtotal Spent on Operations	$77,464	$131,822	$134,890
Additional Cash Spent			
Sales Tax, VAT, HST/GST Paid Out	$0	$0	$0
Principal Repayment of Current Borrowing	$0	$0	$0
Other Liabilities Principal Repayment	$6,500	$10,000	$10,000
Long-term Liabilities Principal Repayment	$0	$0	$0
Purchase Other Current Assets	$0	$0	$0
Purchase Long-term Assets	$0	$0	$0
Dividends	$0	$0	$0
Subtotal Cash Spent	$83,964	$141,822	$144,890
Net Cash Flow	($2,964)	($6,822)	$110
Cash Balance	$7,036	$214	$324

Firm B LLC.

Azra Khan

1000 Irving Blvd

Irving, TX. 75060

682 554 9480

Azra.Khan@FirmB.com

1. Executive Summary

Firm B is a Dalla/Fort Worth-based landscape architecture firm specializing in low cost sustainable landscape design solutions firm driven to provide low cost sustainable landscape design solutions, to clients across the United States. This firm offshores part of its drafting needs to India. It will provide site analysis, planning, design, management and stewardship of built and natural environments.

Appealing landscapes play an important role in attracting customers and increasing property values. Unfortunately, many landscapes are not managed efficiently. This can increase maintenance costs, waste natural resources, and pollute the environment. With forethought and planning, "sustainable landscape practice" can help reduce maintenance costs while producing healthy landscapes and protecting the environment. With special consideration to sustainable practices coupled with low cost solutions in its designs, Firm B plans to reach out to a new clientele with limited resources. Further low cost solutions to landscaping will appeal to managers of low budget, small- or medium-sized projects, private owners or developers.

Firm B's designs integrate aesthetic ideas with environmentally friendly, inexpensive designs that match the needs of the client. The Firm's special focus will be on attracting client who have low budgets and need affordable and low maintenance landscapes. The Firm policies will always be to make landscape designs for all ranges of clientele.

The clientele includes but is not limited to municipal governments, private residential owners, real estate developers, corporate clients, architects, engineers and allied professionals needing professional land planning with sustainable practice expertise. Firm B aims to reach a net sale of $80,000 by the end of first fiscal year, further growing to a $100,000 Firm by the end of second fiscal year. Since the firm is offshoring its drafting needs to India, it enjoys low operating costs, which in turn would reflect on lower fees to clients and better profit margins

The biggest challenge is market penetration, net profitability and payroll expenses. But well-thought out, systematic resource management will maintain a positive margin and steady business through repeat clientele. With over 35-40 small to mid-size landscape architectural firms in the area, market competition is expected to be stiff. With limited resources and low operating costs, the firm will manage a low mark-up value, thus offering competitive quotations conducive to market penetration and winning customers.

1.1 Mission and Key to Success

Various cities and counties across United States encourage the use of sustainable landscaping practices and have funded several urban landscape architects who can provide such expertise. The main modus operandi of Firm A in establishing itself as distinguished landscape architecture firm focusing primarily on two characteristics of designing:

Sustainable Practices: Firm B truly believes in protecting the natural resources, environment, cultural assets and heritage characteristic of a city or a region.

Low Cost: Firm B recognizes that there is an entire class of people who can be potential clients only if it is demonstrated to them that they can afford it. Firm B wants to reach out to these people, to give landscape architecture a boundless applicability.

Firm B would work closely with other design professionals including architects, engineers, and planners to influence design decisions leading to sustainable solutions early on in the project phase. Keys to success for the Firm B will include:

1. Maintaining creditability and an untarnished image in the community.
2. Personalized design solutions with efficient management.
3. Latest cutting-edge technology for design solutions.
4. Skilled labor.

1.2 Services

Firm B services will employ combined knowledge of aesthetic design, site engineering, construction detailing, and planting and use that expertise to guide our clients through a challenging and complicated process.

Services include:

- Site and environmental analysis
- Site suitability studies
- Developing alternative land use strategies
- Producing conceptual and master plan documents
- Providing construction documents and details
- Supervising the construction and bidding process for contractors
- Producing planting plans and specifications
- Protecting environmentally sensitive areas
- Protecting watershed and water quality
- Solving site drainage or hydrology problems
- Providing designs that comply with local or state regulations and codes

Whether public places, residential projects, single-family housing, apartments, senior housing, or student housing, the services of Firm B will offer people affordable options. Firm B will create low cost landscape design through:

1. Use of natural and environment friendly materials.
2. Use of native plant palette.
3. Efficient and cost effective drafting work.

2.1 Company Ownership

Firm **A** will be a Limited Liability Company (LLC) with a single owner and a home-based office with limited staff and work space. The CEO of Firm **A** has a Masters in landscape architecture with excellent management and creative skills. The junior landscape architects are specially recruited for their interest in sustainable design practices.

2.2 Start-up Summary

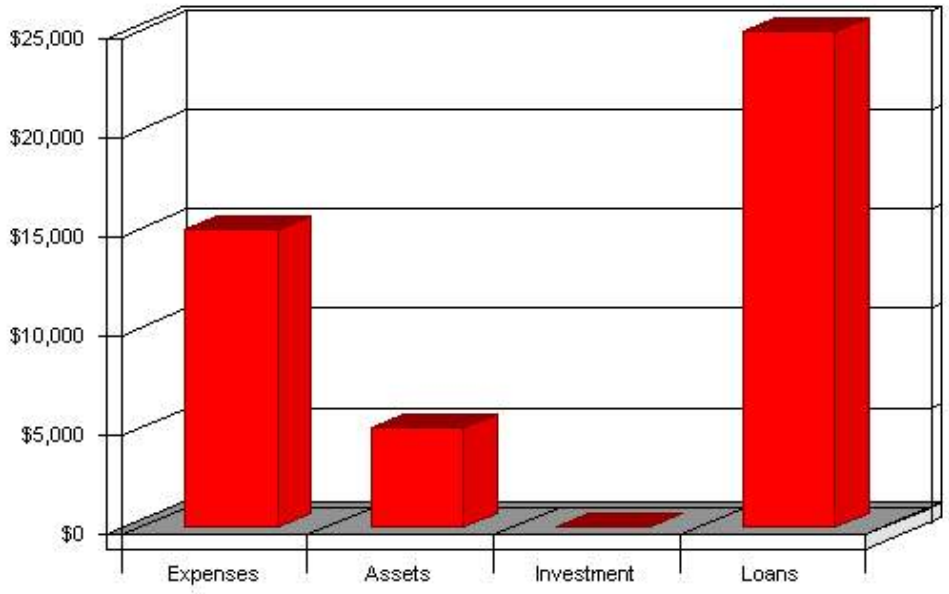
The first quarter is expected to run with the start-up money allocated for recruitment, workspace setup and advertisement. The beginning of second quarter is expected to bring the first project in; hence the human resources and technology will be fully functional at the end of the first quarter. With current market research, it is expected that the first year will realistically achieve sales of $100,000.

Firm A start-up costs total $20,000. The major expenses include consultation fees and legal expenses to open an LLC (Limited Liability Corporation) in the state of Texas. Rental and furnishings expenses will be limited because the business will be based in the owner's home.

Start-up	
Requirements	
Start-up Expenses	
Legal	$1,000
Consultants	$500
Insurance	$500
Rent	$1,000
Recruiting/Advertisement	$700
Software (Auto CAD)	$4,000
Hardware (Workstations/Workbenches)	$3,000
Security/Firewall Features and Additional supporting software	$1,500
10% Contingencies	$1,300
Website	$1,000
Others	$500
Total Start-up Expenses	$15,000
Start-up Assets	
Cash Required	$5,000
Other Current Assets	$0
Long-term Assets	$0
Total Assets	$5,000
Total Requirements	$20,000

Start-up Funding	
Start-up Expenses to Fund	$15,000
Start-up Assets to Fund	$5,000
Total Funding Required	$20,000
Assets	
Non-cash Assets from Start-up	$0
Cash Requirements from Start-up	$5,000
Additional Cash Raised	$5,000
Cash Balance on Starting Date	$10,000
Total Assets	$10,000
Liabilities and Capital	
Liabilities	
Current Borrowing	$15,000
Long-term Liabilities	$0
Accounts Payable (Outstanding Bills)	$0
Other Current Liabilities (interest-free)	$10,000
Total Liabilities	$25,000
Capital	
Planned Investment	
Investor 1	$0
Other	$0
Additional Investment Requirement	$0
Total Planned Investment	$0
Loss at Start-up (Start-up Expenses)	($15,000)
Total Capital	($15,000)
Total Capital and Liabilities	$10,000
Total Funding	$25,000

Start-up



3. Market Analysis Summary

Firm A will be focusing not only on commercial and retail clients, but also on public and private projects. Our other important groups of potential customers are medium to large AEC firms and corporations. These are architectural firms, civil engineering and/or surveying firms, urban planning, urban design consultants, etc. Since more and more people in different sections of the community are now focusing on environmentally friendly and sustainable practices, demand for services is undoubted. At this point, low-cost technology and affordability is a market concern. This is what Firm A LLC aims to specialize in and eventually register its success.

Due to limited resources to analyze markets and a budgeted approach towards potential clientele, our market area will currently be comprised of the United States only. Through word-of-mouth recommendations and success stories in the long-term, Europe and Asia will be targeted.

4. Market Segmentation

Commercial and Retail: This will form the largest share of our business, since they essentially meet our focus of a minimal, sustainable landscape to fulfill city code

requirements. This is the area where most of our target market is, for the following reasons:

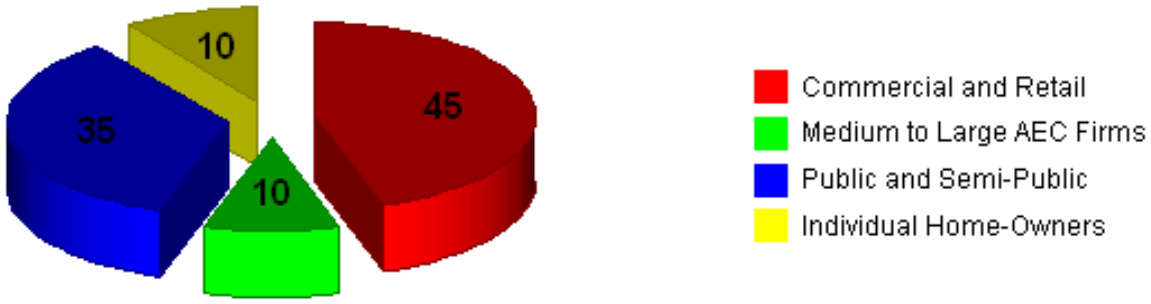
1. Bigger volume of work
2. Long term projects
3. Prestigious and more publicized contracts.

Mid-size to Large AEC Firms (architectural, engineering and construction): It is not expected that such clients would form a major share of our business; though a part of a larger project might be obtained from such groups. There is the possibility of losing control over design principles when working with the AEC industry, as they may want cookie-cutter solutions. Thus, the business share from this group is expected to be low.

Individual Homeowners: Our marketing strategies will ensure we cater to residential clients who seek low-maintenance and low-cost sustainable solutions for their homes.

Public and semi-public projects: This will include city parks and plazas; churches, cathedrals, and monasteries; schools; and other such semi-public places.

Market Analysis (Pie)



Winning clients will be tackled using the following pathways:

- Chamber of Commerce: Meeting face to face with professionals in allied fields and catering to each others' needs.
- World Wide Web: Includes Website, online forums, Internet brochures.
- Personal: Word of mouth as well as creating new contacts. Sharing business cards, brochures and portfolios.

- ASLA and other professional organizations.

The owner has a strong design and software background. In addition, an impressive portfolio is expected to be a winning factor for projects.

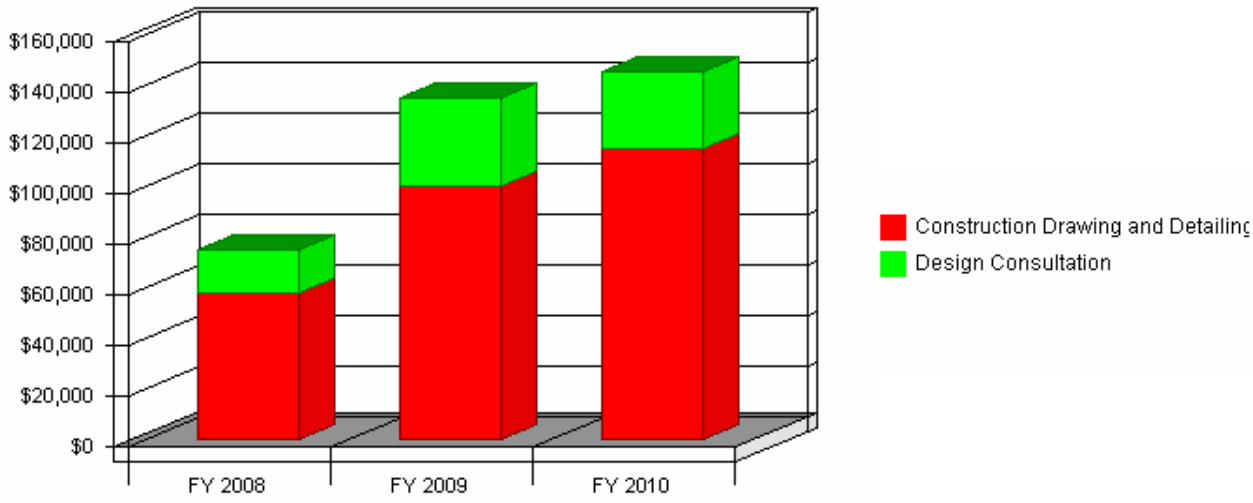
6. Sales Strategy

30% advance and 70% at delivery, no installment plans.

6.1.1 Sales Forecast

Sales are broken down into two categories: design consultation and construction documents. These two categories make up one landscape architecture project. Design consultation comprises the initial part of the projects, whereas detailing and producing construction documents would take most of the time and dollar amount. The following table and chart provide an overview of our forecast sales. Actual sales could vary depending on the project size and budget.

6.2 Sales by Year



Sales Forecast			
	FY 2008	FY 2009	FY 2010
Sales			
CD sets and detailing	$70,000	$120,000	$130,000
Design Consulting	$5,000	$15,000	$15,000
Total Sales	$75,000	$135,000	$145,000
Direct Cost of Sales	FY 2008	FY 2009	FY 2010
Design	$1,000	$1,000	$1,000
Consulting	$0	--	--
Subtotal Direct Cost of Sales	$1,000	$1,000	$1,000

7. Management Summary

The Firm is composed of the following personnel:

1. CEO

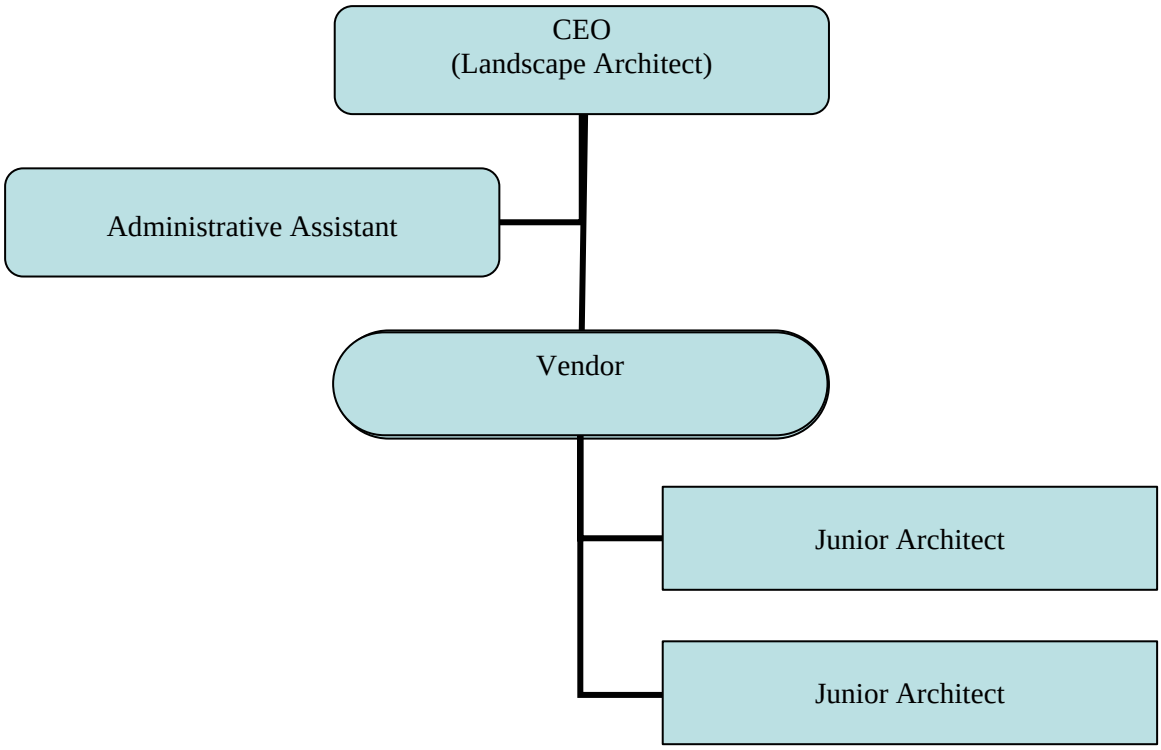
   Primary Role: Marketing, administration, and filling the role of Senior Architect.
   Education: M.S. in landscape architecture, licensed practitioner.

2. Administrative Assistant

   Primary Responsibilities: A part-time position handling internal secretarial issues like paper work, shipment, checking voice mails, and ordering supplies.
   Education: A high school degree or GED, good writing and communication skills.

3. Junior Landscape Architect(s)

   Primary Responsibilities: Hired either full-time or on contract. Reports directly to the CEO and works under the instructions and guidance of the same to create CD sets, preliminary design etc.



7.1 Personnel Plan

The following table summarizes the personnel expenditures for the first three years of operation.

Personnel Plan			
	FY 2008	FY 2009	FY 2010
Designer1	$20,000	$30,000	$30,000
Designer2	$10,000	$30,000	$30,000
Administrative Assistant	$13,500	$18,000	$18,000
Total People	3	3	3
Total Payroll	$43,500	$78,000	$78,000

7.2 Financial Plan

The break even for Firm B is about $5,300. With close to $3500 spent on payroll, with a mark-up of 3, around $11000 will be generated in revenue. The conservative mark-up is affordable once again due to limited overheads and low direct sales cost.

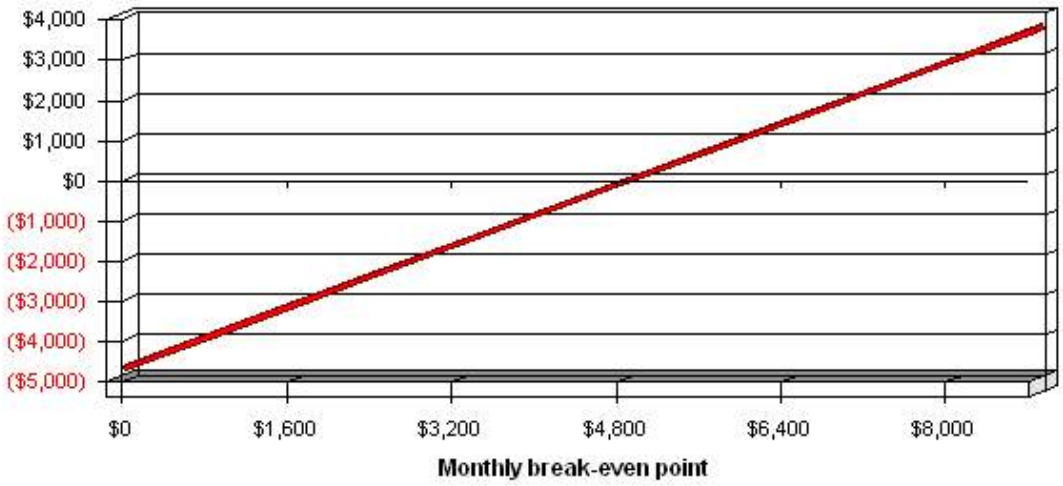
Average percent variable cost is assumed 5%. This includes sick leaves, system down-times, weather, and similar factors hampering hourly productive output.

7.3 Important Assumptions

General Assumptions			
	FY 2008	FY 2009	FY 2010
Plan Month	1	2	3
Current Interest Rate	10.00%	10.00%	10.00%
Long-term Interest Rate	10.00%	10.00%	10.00%
Tax Rate	25.42%	25.00%	25.42%
Other	0	0	0

7.4 Break-even Analysis

Break-even Analysis



Break-even point = where line intersects with 0

Break-even Analysis	
Monthly Revenue Break-even	$4,910
Assumptions:	
Average Percent Variable Cost	5%
Estimated Monthly Fixed Cost	$4,664

7.5 Projected Profit and Loss

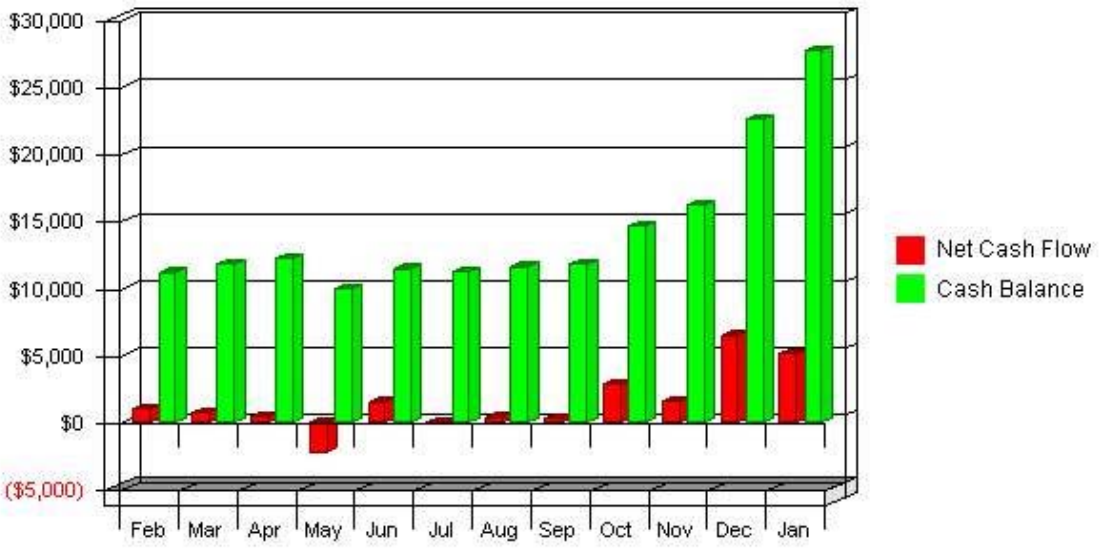
The net profits for the first three years are about 37.47%, 22.27% and 25.76%. The higher first year net profit is due to conservative human resource expenditures, saving on payroll expenses and hence the associated employee benefits and taxes. The second year is a low since all human resources are deployed and the clientele is still building up. After the first two years of transient fluctuations, the third year should register a more realistic and steady-state net profit, with all the technological and human resources deployed and earning the full potential revenue from the incoming business.

Pro Forma Profit and Loss			
	FY 2008	FY 2009	FY 2010
Sales	$75,000	$135,000	$145,000
Direct Cost of Sales	$1,000	$1,000	$1,000
Other	$0	$0	$0
	---	---	---
Total Cost of Sales	$1,000	$1,000	$1,000
Gross Margin	$74,000	$134,000	$144,000
Gross Margin %	98.67%	99.26%	99.31%
Expenses			
Payroll	$43,500	$78,000	$78,000
Sales and Marketing and Other Expenses	$1,200	$1,500	$1,500
Depreciation	$120	$120	$120
Workstation Maintenance	$3,450	$1,500	$1,500
Utilities	$1,000	$1,200	$1,200
Insurance	$1,800	$1,800	$1,800
Employee Benefits	$2,700	$3,600	$3,600
Vendor Operating Expense	$1,100	$1,200	$1,200
Offshore Communications	$1,100	$1,200	$1,200
	---	---	---
Total Operating Expenses	$55,970	$90,120	$90,120
Profit Before Interest and Taxes	$18,030	$43,880	$53,880
EBITDA	$18,150	$44,000	$54,000
Interest Expense	$1,000	$1,000	$1,000
Taxes Incurred	$4,240	$10,720	$13,440
Net Profit	$12,790	$32,160	$39,440
Net Profit/Sales	17.05%	23.82%	27.20%

7.6 Projected Cash Flow

Cash flow is vital to the well-being of this firm because of the duration of payment. The following chart and table below show cash flow projections.

Cash


$30,000
$25,000
$20,000
$15,000
$10,000
$5,000
$0
($5,000)
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Net Cash Flow
Cash Balance

Pro Forma Cash Flow			
	FY 2008	FY 2009	FY 2010
Cash Received			
Cash from Operations			
Cash Sales	$75,000	$135,000	$145,000
Subtotal Cash from Operations	$75,000	$135,000	$145,000
Additional Cash Received			
Sales Tax, VAT, HST/GST Received	$0	$0	$0
New Current Borrowing	$0	$0	$0
New Other Liabilities (interest-free)	$6,000	$0	$0
New Long-term Liabilities	$0	$0	$0
Sales of Other Current Assets	$0	$0	$0
Sales of Long-term Assets	$0	$0	$0
New Investment Received	$0	$0	$0
Subtotal Cash Received	$81,000	$135,000	$145,000
Expenditures	FY 2008	FY 2009	FY 2010
Expenditures from Operations			
Cash Spending	$43,500	$78,000	$78,000
Bill Payments	$15,439	$25,840	$27,217
Subtotal Spent on Operations	$58,939	$103,840	$105,217
Additional Cash Spent			
Sales Tax, VAT, HST/GST Paid Out	$0	$0	$0
Principal Repayment of Current Borrowing	$0	$0	$0
Other Liabilities Principal Repayment	$4,500	$5,000	$7,000
Long-term Liabilities Principal Repayment	$0	$0	$0
Purchase Other Current Assets	$0	$0	$0
Purchase Long-term Assets	$0	$0	$0
Dividends	$0	$0	$0
Subtotal Cash Spent	$63,439	$108,840	$112,217
Net Cash Flow	$17,561	$26,160	$32,783
Cash Balance	$27,661	$53,821	$86,605

APPENDIX B

INTERVIEW QUESTIONS

The title of this thesis study is “Global Outsourcing in Landscape Architecture: A Study of Current and Future Trends”. Given that lot of design-oriented professions have proved profitable by outsourcing some of their human resources and technical expertise to low-cost nations, this study is an attempt to analyze the relevance of outsourcing as a business technique in the field of landscape architecture. Towards this purpose, certain basic information as to how, what and where to outsource have to be collected from professionals practicing outsourcing or aim to follow such a pathway.

Kindly attempt to provide elaborate answers to the following questions:

1. What type of outsourcing is suitable for landscape architects?
2. Name one reason why outsourcing is beneficial for landscape architects? Why?
3. Name one reason why outsourcing is not recommended for landscape architects?
4. What criteria would you suggest for choosing an outsourcing vendor?
5. How does outsourcing affect human resource policy?
6. How many of your projects are outsourced?
7. How does communication occur during an outsourcing project?

APPENDIX C

INTERVIEW TRANSCRIPTS

INTERVIEW #1

Introduction
Azra: Hello Mr. Indranil Hira. Is this a good time to talk to you? This should take approximately 10 -15 minutes.
Mr. Hira: Sure it is. Not a problem.
Azra: We can start with your background, how long you have been working with this firm, in what capacity.
Mr. Hira: I am the Head of architecture department here at Bluent, 4yrs experience in CAD outsourcing. I have a B.ARCH, and did some local architectural firms, and then a United States based firm who had a back office in Delhi.

1. What type of outsourcing is suitable for landscape architects?

Mr. Hira: Do you know what actually happens in outsourcing?
Azra: There is a couple of ways it works. One is have a back office in a country like India, or employ a vendor who can provide junior architects, or else collaboration with an architectural firm in such a country.
Mr. Hira: What exactly happens is we get projects from architect, the designer on a construction project. He makes his plans and we make it in CAD, with minor changes. The person in United States does not allow us to "create" the design.
Three things involved:

1. Schematic Drawing
2. Design Development
3. Construction Document.

We only do the third, construction documents. Our architectural knowledge hardly goes into this. We are only concerned with our knowledge of CAD, and maybe little bit of design development.
Since we are good in CAD, it will start from construction document. The Landscape Architect there (United States) knows the plants and trees, we over here we will not be able to do that.
Azra: Why don't you have a database of plants etc and use them in their designs?
Mr. Hira: Yes that is possible but we do not "decide" the design, even if what you say can be done. Initially we just start over with construction document and then go on from there.

2. Name one reason why outsourcing is beneficial for landscape architects? Why?

Reality is, Indians are very good in computers, no one can deny. I am not boasting about us, but I have seen being to Singapore, United States and UK. I can guarantee an average Indian designer can do it very efficiently. So, one thing we do it in record time. Plus we get money in rupees instead of dollars. Also we are paid in lump sum, not in

dollars. Roughly $20 per hour rather than $80 if they had employed in house in United States. Also they have big one office, computers and other infrastructure (expenses).

Other thing is, suppose they shut down over there end of business day. We start working over here at that time. So, next morning some work has already progressed, so nearly 24 hour working time is generated. This really helps pacing through the completion of project.
Azra: So how do you manage communicating with your client in United States in this kind of set up with time difference.
Mr. Hira: If at all we have to communicate, they stay a bit late, we come early and we make a call. But usually that is not much needed. Everything is so systematic, well coordinated that operations are very smooth.

3. Name one reason why outsourcing is not recommended for landscape architects?

Mr. Hira: One frank reason I will tell you, one issue is people don't get job in United States. That is only one reason I can think of. But you see, United States is a money oriented country. So if they save money this way, they will do it. They will not stop due to job market going down. It is a political issue, not personal issue for firm. It is very difficult to stop outsourcing, very difficult. For example, if American Express shuts down its operations handled from India, it will be a major blow for AMEX, everything will be at standstill.
As it is, outsourcing causes more projects for less money in United States, so it is benefiting United States population in a way. We have adapted and they have also adapted. Now, it is difficult to stop outsourcing for major corporations who have started.

Azra: Will it increase more and more over years?

Mr. Hira: Satellier, in a newsletter said. They have tapped only 4% of business to India. And are planning to grow to 30% in next 5 years. Even 30% will greatly improve prosperity of the company. "Only may be a world war can stop outsourcing"

4. What criteria would you suggest for choosing an outsourcing vendor?

Mr. Hira: It is a very elaborate topic actually. One important thing is experience. How long have they been in the market? Mostly, the ones who have been in market, know market, legal issues etc. I think at least 3-5 yrs of experience in vendor. Other issue is pricing. Lots of them take money for their established names. There are always people who will do it for cheaper and they will give best deals and benefit you.
One other important criterion is flexibility. For example they do not do Landscape architecture, but they can manage getting and handling a project, they can also employ

resources suited for your needs. I mean at least the project manager should be a landscape architect, if not the junior staff.
Apart from that, legal issues if something goes wrong you can sue in United States, not over here. So its better that the technical team and management of the vendor is in United States so that client is more comfortable in handing project. Also, because it's face to face. You meet people, see the office and then hand over the project. Legal issues can also be handled better. Only the designing, it does not matter where the work is being done, the stake holders are in United States.

5. How does outsourcing affect human resource policy?

It's about adaptability. We know it is "survival of the fittest" in every field. Suppose, there are 10 good, 5 bad people, and 5 people are in between. Now the top 10 have to adapt. They have to adapt to being good oversee managers. They are not just good designers but also they have to be good managers. The human resource in India have no headaches of designing and creativity, they do whatever is told to them. At the same time the human resource over there doesn't have to fight with menial drawing and printing, it is outsourced. The architects can concentrate on client end and managing the work. Further, if there's new software coming in United States. But we have to adapt to that new software because it is their demand. So this is how HR is affected.
Let's say you are an architect suppose there is no longer much job in Landscape architecture. So what will you do, stop working? No you will try learning similar skills and adapting yourself to where the jobs are. Similarly, we have adapted ourselves to the outsourcing business by United States, so we will be flexible and adaptable to meet the needs of the United States market and United States clients.

6. How many of your projects are outsourced?

Last financial year 30 projects from just one architecture firm. Total approximately 50 projects in last year.

Azra: So there is a huge volume work you mean to say.

Mr. Hira: Oh yes, we are short of people, if two people are sick at home, we are in trouble.

7. How does communication occur during an outsourcing project?

First is details, and then quotation. We use emails for data transfer. We ask not to make details. Just the gist, we will complete the design. Now if the company needs it in X-ref we will send it in X-ref, if PDF then PDF. We are very flexible with the format. Lot of the times the client does not provision for your format, then we will use whatever format they have available. We just adapt to the format client is comfortable with.

INTERVIEW #2

Introduction
Azra: Hello Mr. Jones thanks for being available for this interview. This should take approximately 10 -15 min.
Mr. Jones: Sure it is. Not a problem.
Azra: Just to start with, can you give me your introduction as to where you stand in the firm and what your position and how long you have been working with GSPS.
Mr. Jones: I am a LA in FT office; we have another one in Salt Lake city, Utah. I am with the firm for 8 ½ yrs.
Azra: I know you are a registered Landscape Architect. Any experience with offshore outsourcing?
Mr. Jones: Yes

1. What type of outsourcing is suitable for landscape architects?

Mr. Jones: with do CAD drafting service. That's the only thing we outsource offshore.
Azra: By CAD drafting do you mean construction documents?
Mr. Jones: Yes. But not all of it. Some of it is related to support of our planning effort. Assembling basic informational databases, we do lot of master planning work, and surveys form multiple sources that have to be reconciled with each other and then develop graphs and typically our CAD service providers provide us with these kinds of services. I was skeptical if they would be able to assemble these pieces of information into pretty cohesive format, but it is working out wonderfully and they are doing a great job. It's been very good.
Azra: is it any different from architectural firm.
Mr. Jones: Most of the processes are pretty much the same because we use the same format, the CAD standards, layers, and other matters are just the same. The most critical that we have is if someone were sitting next to you, you could give them a little less information and still communicate well. It is a little more time and efforts to convey what I want to someone who is formatting the information for me if that individual at a distance.
Azra: So does it increase the time to complete the overall project?
Mr. Jones: No, it in fact saves time in the long run. Only upfront communicating the need takes more efforts and time. It is more to deal with the learning curve in this situation or to be working in this mode if you will.

2. Name one reason why outsourcing is beneficial for landscape architects? Why?

Mr. Jones: It leverages your time efficiency in the long run because you do not do CADD work in house you throw it to some other entity. It allows you to spend your expertise in something more important than to just generate CAD drawings.

Azra: Can you specify on like other aspects like meeting with the clients doing construction designs.
Mr. Jones: Personally I am being able to manage more projects just because this CAD burden is just taken away from me
Azra: What about the time difference, does it bother you? While you are waiting for your design to be ready the time difference makes you wait.
Mr. Jones: It is not much of a problem; it is just a change in "mindset". When I am projecting the timelines as to when my project will be done we account for that. Now some clients do have a demanded turn around time, and it may not work for every client but those who have an understanding of the turn around time, it is very beneficial.

3. Name one reason why outsourcing is not recommended for landscape architects?

Mr. Jones: There is a little bit of loss in training the younger staff, how to produce what is needed, if all they have been doing is editing and stuff like that, there is a little bit of training loss that goes into that.
Azra: And you think that is really important for every staff member?
Mr. Jones: I think yes, if we were to work as a professional.

4. What criteria would you suggest for choosing an outsourcing vendor?

Mr. Jones: we have outsourced with a company in Philippines and I did not any input in the selection process. It was more at the directorial level, whoever is assigned, and we had to deal with them. I am not sure how exactly I would go about if I were to select, but I would only try to see that the newer firm can duplicate the kind of services is offered by the current firm in Philippines that we are dealing with.

5. How many of your projects are outsourced?

I have worked on 3-4 outsourced CAD projects myself. As a company we have already outsourced 50-60 different projects.
Azra: this is about the Fort-Worth office; you also have an office in Salt Lake city, UT.
Mr. Jones: This is for us in Fort-Worth, the office in Salt Lake City utilizes outsourcing much more than we do. We are a multi disciplinary firm; we are not just Landscape Architectural firm.
Azra: My concern was how outsourcing will be affecting our profession specifically, that is filed of landscape architecture. My opinion is it should not be that different than for other fields.
Mr. Jones: That is correct, and that is if it were a company like us. If there is a firm independently doing only landscape architecture, it might be different but I don't know if it is a valid point, since I am not in that mode of profession.

6. How does communication occur during an outsourcing project?

Mr. Jones: Transfer of files is through emails and FTP. There is a representative in Salt Lake City for specific communication to be made to the offshore team. We, when needed communicate this to that individual an essentially he relays the information to that office offshore. I do not have any direct communication with Philippines other than the instructions which I have to give, or pouring the files through FTP.
Azra: You think it is a hindrance not having much direct communication?

Mr. Jones: No, not at all. Only thing is I have to be a little concise in my directions and instructions as opposed to it would be if the staff was in house where direct relationship is existent.

Azra: How does a file travel basically from a design made on paper, to finally getting printed out on paper?

Mr. Jones: They are scanned, and in TIFF format are posted on the FTP server. If any manipulations have to be done after a CAD design has been made of that. As far as construction drawings are concerned, we typically have a base drawing that is established with a preliminary process or they generated something out of what we have asked them to do and continue with a red line editing process.
Azra: Number of red lining and back and forth is more in outsourcing as compared to in house staffing?

Mr. Jones: No. It's typically the same; In fact, the offshore group tends to pick up the red marks upfront than are in-house people do.

Azra: Anything else you would want to add about outsourcing.

Mr. Jones: No. Just that outsourcing is just an extension of our effort in trying to meet our client needs in terms of efficiency and cost.

INTERVIEW #3

Introduction
Azra: Hello Mr. Varghese, This should take approximately 10 -15 min. Is this a good time to talk to you?
Mr. Varghese: yes sure.
Azra: So, I only have about seven questions about outsourcing and how it can affect landscape architecture filed. Let us start with your introduction as to where you stand in the firm and what your position and how long you have been working with Satellier.
Mr. Varghese: I am an Architect from Trivandrum, India with 3 years experience, working with Satellier for nearly 2 ½ years, first I worked elsewhere as an architect, and

then into the business development team, and was in the marketing team of the business development, and now I am an Asst. Manager, Sales in US now.
Azra: So do you have to go back and forth from India to United States, or you stay in US.
Mr. Varghese: I am based in the New York office of the company but currently I am in Delhi, India. I am in charge of New York office of Satellier.

1. *What type of offshore outsourcing is suitable for landscape architects? Or architects in general if you are uncomfortable with just speaking of landscape architecture.*

Mr. Varghese: Basically there are two kinds of models we use here at Satellier. One is a project model, and there is studio model. Project based model is relatively simple in terms for the client in which we are try to analyze the power required to complete the project, and we quote the client according to the resource needed and the stipulated time requiring to deliver the project. The second model is studio model, which sort of is derived from project model, is in which the client retains his resource team of say 5 architects for like say 3 months, each working at say 170 hours a month. So, the client pays us x amount of money multiplied by 5, simple mathematics.
Azra: So these five people will work exclusively for that client.
Mr. Varghese: Yes exactly, they are dedicated to that client and do whatever work is given to them from that client. The difference is that the studio model is cheaper than the project model. Also, in project model, if say the project goes on hold, then the client cannot use those people on any other project, because they are meant to work only on that particular project. Whereas in studio you can give them any work depending on priority.
Azra: So studio based is like having a remote office of the client.
Mr. Varghese: Yes sure it's like having your own studio elsewhere.
Azra: Which one is a suitable model?
Mr. Varghese: Definitely, studio model is more suitable because it has its own subtle advantages. First of all there is always a learning curve as to how the client works, the methodology, the time intensity. So what happens in studio based a team after a couple of projects learns and suits itself to that particular client. The client if retains this team they work with good efficiency. This does not happen in project based because efficiency may be less.
Azra: So do you offer the client a studio model after it has already worked on a project with you?
Mr. Varghese: We show them both. Sometimes the client demand upfront for a studio model.
Azra: So do they have to give a commitment that there will be enough work for the hired team?

Mr. Varghese Definitely, there is a contract we sign for example allocating a team of say minimum of three people and for a minimum time of 3 months. So now it's the clients' headache that it has to keep them occupied to get most out of their time.

2. Name one reason why outsourcing is beneficial for landscape architects? Why?

I think landscape architect or architect it is the same as the advantages are basically that we:
a. Supplement your man power,
b. Price advantage,
c. And effective number of ours put into a project. It is effectively 16 hrs.
Because we work while they sleep. Its like you give us work end of business day today, and by the time you come to work tomorrow, we have finished so much of work. Now you can proceed with additional work on the project. So, effectively it is around 16 hrs. Working. Pricing is a huge one. There charging is minimum $40 an hour and we charge the client only $21 to $25 an hour.

3. Name one reason why outsourcing is NOT recommended for landscape architects?

You mean not outsource, definitely I would be able to tell you any. But I will tell you some basic problems we face. It is talks going on that interns are losing jobs. But this is completely baseless. Accordingly, an AIS survey, these interns and junior staff have grown up their learning curves, to basically act as managers to deal with these offshore clients. So, they are now becoming managers and coordinators to deal with us. Thus, thus outsourcing *is* helping them grow up and work in a more competitive role.
Azra: But there is this buzz of losing jobs in US, and you think that could be the one and only issue against offshoring?
Mr. Varghese: Well that too is totally baseless and incorrect. AIA is the main body. It has itself said that getting an architect in US is the most difficult task currently. We have now worked with over 70-80 clients. And we have talked to them and no one has reported to have contributed to lost jobs. In fact they say that their doing 20% increase in business due to working with us.
Azra: Many firms don't want to talk about offshore outsourcing it seems.
Mr. Varghese: That may be due to certain laws that prohibit outsourcing, so may be they are reluctant to talk. But that does not mean they do not outsource.

4. What criteria would you suggest for choosing an outsourcing vendor?

Credibility and communication. I think technology and communication are prime issues while outsourcing. Experience, core strength as to how potentially quickly it can deliver the project, and quality.
Azra: Do you think 24 hr turn around works?

Mr. Varghese I don't think 24 hr time around generally works. You should also see the quality. The idea is that you give them a deadline and see how well they can deliver in that timeline.
Azra: But you said you put 16hrs on a project; you put 24 hrs on the same drawing or project?
Mr. Varghese: That does happen sometimes, in which the work details are well defined, there is always rework back and forth. All these discussions are carried out in the beginning before the kick off of the project. They give us the details, the drawing list and final schedule on which the project has to be submitted for checking. It has to be well coordinated.
Azra: So there are PMs on US side and PMs on offshore side. What all does the US office do.
Mr. Varghese: We have 3 offices in US; Chicago, NY and Los Angeles. I am based of NY and I am the interface with the client as to what are its requirements, I am their contact for India office. Chicago is marketing and accounting.

5. *How does outsourcing affect human resource policy?*

US office can focus better on design, rather than construction documents. Junior staff is canalized more towards project management. It means more efficiency, and ultimately US clients get the advantage of it. Our HR policy is to give a months training to architects in India to work with the softwares used in US as well as working in an international environment. That gives them an edge of exposure. 40 % of US firms are outsourcing. One of our clients reported 1 ½ million dollar profit in a year of working with us.

6. *How many of your projects are outsourced?*

Well you already said about 70-80 clients have worked with you.

7. *How does communication occur during an outsourcing project?*

FTP we have our own. We have emails, phone, video conferences, and lot of real-time communication. Go-to-Meeting ® is software for online chatting. Data exchange occurs through FTP. The initial drawings are sent in JPEG or PDF. We pick up red lines and make corrections in the design.

Azra: Additionally, what is Revitt? It seems to be something new, it is not taught here.
Mr. Varghese: Revitt is a type of information designing software, which has newly hit the market. It is a very intelligent tool in which to start working on 3-D without having to make 2D in CAD. You directly get all the estimates. I can send through email if you want.

REFERENCES

AIA firm survey 2003-2005. International work, chapter 7, American Institute of Architects.

AIA international committee. (2006) Offshore outsourcing roundtable report. American Institute of Architects.

AIA overseas member survey report (2006). The business of architecture. American Institute of Architects

Bureau of Labor Statistics, (2006-07). US Department of Labor, Occupational Outlook handbook, Landscape Architects. www.bls.gov/oco/print/ocos039.htm

Burkholder, Nicholas C. (2006). Outsourcing: the definitive view, applications and implications. Wiley: New Jersey.

Click, Rick L. and Thomas N Duening, (2005) Business Process Outsourcing: The Competitive Advantage. John Wiley and sons: Hoboken, New Jersey.

Dalgleish, Alan (2006). The Philippine market. Urban Land 65, no. 2 (Feb): 111-112. Database on-line. Available from CSA, Avery Index to Architectural Periodicals.

Dorgan, Senator Byron L, (2006). Take this job and ship it: How corporate greed and brain-dead politics are selling out America. Thomas Dunne-Martin's Press: New York

Friedman, Thomas L. (2005). The world is flat: A brief history of twenty first century. Farrar: New York

Engardio, Pete. "Blueprint from India" Business Week March 22, 2007. url http://www.businessweek.com/globalbiz/content/mar2007/gb20070322_747049.htm?chan=search

Gordon, Edward E. (2005). The 2010 meltdown: solving the impending job crisis. Praeger: Westport, CT.

Goyal, P K. "Outsourcing: Win win for all." BusinessLine November 16, 2004 Accessed march 20, 2004 (Thehindubusinessline.com/2004/11/16/stories)

Hira, Ron and Anil Hira. (2005)Outsourcing America: What's Behind Our National Crisis and how can we Reclaim American Jobs. New York: AMACOM

International professional practice network. Newsletter March 2007, ASLA

Jones Lang LaSalle. (2005). A shift in offshore outsourcing cities in the offing? Urban Land 64, no. 5 (May): 44. Database on-line. Available from CSA, Avery Index to Architectural Periodicals.

Kehal, Harbhajan S. and Varinder P Singh. (2006). Outsourcing and Offshoring in the twenty first century. Hershey: Idea Group Publishing.

Kerkoff, Gerd (2006). Global sourcing: opportunities for the future. Wiley-VCH: Weinheim, Germany.

Khemka, Amit, Ole Bouman (2006). A chat with the future: Ole Bouman in conversation with Amit Khemka. Volume (Amsterdam, Netherlands), no. 6: 92-95. Database on-line. Available from CSA, Avery Index to Architectural Periodicals.

Kobayashi-Hillary, Mark (2004). Outsourcing to India - The Offshore Advantage. London: Springer.

Koshy Tessy, 2006 The Telegraph Calcutta edition,Thursday, November 16, Exporting Knowledge.

Lyall, Sutherland. 2004. Hidden sources. Architects' Journal 219, no. 7 (Feb): 44, 46-47. Database on-line. Available from CSA, Avery Index to Architectural Periodicals.

Pande, Bhanu. Brick By Brick: Global majors warm up to Indian Architects Economic Times Delhi; Date:2006 Oct 11; Section:Business & IT; Page Number: 6

Ramm, David, (2006). Jobs in America. The H. W. Wilson Company: New York.

Solomon, Nancy B. 2005. "Are We Exporting Architecture Jobs?." Architectural Record 193, no. 1: 82-90. *Business Source Complete*, EBSCO*host* (accessed November 5, 2007).

Taylor Steven J. and Robert Bodgan (1984). Introduction to qualitative Research Methods: The search of meanings. Wiley: New York

Taylor, Marilyn, Anthony T. Vacchione, (1999). Going private. Urban Land 58, no. 10 (Oct): 32-36, 80. Database on-line. Available from CSA, Avery Index to Architectural Periodicals.

Thombesi, Paolo. 2006. Drafting culture. ArcCA: the journal of the American Institute of Architects, California Council, no. 1: 36-39. Database on-line. Available from CSA, Avery Index to Architectural Periodicals.

Vashishtha Atul, and Avinash Vashishtha, (2006) The Offshore nation: Strategies for success in Global Outsourcing and Offshoring. New York: McGraw-Hill.

Willocks Leslie P and Mary C. Lacity, (2006) Global sourcing of business and IT services. Palgrave: New York.

Yourdon, Edward. (2005) Outsource: competing in the global productivity race. Prentice hall- PTR: New Jersey

National Association of Software and Services Companies. (NASSCOM) Knowledge professionals in India

Corbett, Michael F. IOAP: Launching a new breed of outsourcing professionals. International Association of Outsourcing Professionals (IAOP).

Sachdeva, Sujata Dutta. 2007 Times of India. march 11th Designing global dreams.

Thomas Vonier, FAIA, RIBA The Export of Professional Design Services by Foreign Architecture Firms A View of Initiatives Overseas AIA INTERNATIONAL ENEWS

BIOGRAPHICAL INFORMATION

Ms Azra Khan is pursuing her Master's degree in landscape architecture. She obtained her Bachelor's degree in architecture from National Institute of Technology (NIT) Nagpur, India. Her future interest lies in creating a niche with her dual backgrounds architecture and landscape architecture.