Abstract—This paper illustrates the study of practices and trends of outsourcing of software production around the world specially in Pakistan. The focus of the study is to find out factors that influence the outsourcing trends and where is outsourcing industry of Pakistan heading to. With Pakistan’s fast-paced IT industry, it is emerging as a powerhouse in the South Asian region; other factors include availability of a large pool of English-proficient skilled professionals, affordable connectivity rates, competitive infrastructure and operational costs. On the downside, the country has an image problem in global community because there is perception abroad that Pakistan is politically and economically unstable. However, these problems have not scares away customers. The conclusion of the study is that it will enhance the knowledge of practitioners and academia about the cross-cultural outsourcing in systems development.

Index Terms—Foreign and domestic contracting (Outsourcing), foreign contracting (Off shoring), Neighboring contracting (Near shoring), domestic contracting (In shoring).

I. INTRODUCTION

“Something’s are better left to others” that is outsourcing all about. In simple words outsourcing is: When the supplier of software development is from another country than the firm that decides to outsource information systems [1].

Outsourcing is big business and is expanding at an almost exponential rate. From 34% of firms outsourced all or part of their IT in 1997, percentage has gone nearly more than 50% in the recent years. The aim behind outsourcing for any organization is to gain benefits that are beyond its internal capabilities.

II. HISTORICAL BACKGROUND

It all started in 1960s when brains came up with the idea for sharing the hardware for better performance and quick response. The expensive nature of such systems led many organizations to contract out routine data processing activities to large externally managed operators. The thought behind the motivation for businesses to outsource during this period was cost reduction. From the 1980s to the present time offers a multitude of reasons for the spread and growth of outsourcing and offshore systems development. Global expansion and diffusion of IT was a key factor [4].

III. OUTSOURCING OPTIONS FOR IT

As an option 3 ways can be adopted for an outsourcing
a) Selective Outsourcing
b) Total Outsourcing
c) Transitional Outsourcing

A. Selective Outsourcing

In selective outsourcing option we can select Best-of-Breed for an activity - not tied to one vendor. It creates a competitive environment to overcome organizational impediments & motivate performance. Selective outsourcing provides flexibility to adapt to changes and capitalizes on organizational learning with less risk than total outsourcing. On the other side its have higher transaction costs due to:
   a) multiple endeavors
   b) multiple contract negotiations
   c) multiple vendors to manage and coordinate

B. Total Outsourcing

In total outsourcing option we have consistency (same vendor for many activities) providing stability with same vendor doing numerous activities. Total outsourcing helps in lower transaction costs because there is only one vendor. But it is more vulnerable to vendor manipulation on pricing, maintenance costs, vendor support.

C. Transitional Outsourcing

Outsource legacy systems while focusing in-house staff on dept. of new IT venture. “Firm Specific” Knowledge can be used on new IT rather than stay with old. With this it is easier to affect knowledge transfer from new IT venture outsourcing to staff.

But in transitional outsourcing time/resources are spent getting the transitional outsourcer “up to speed” and managerial attention is spread between two outsourcers (new venture & transitional).

IV. CHANGING TRENDS IN OUTSOURCING

In October 2003, global outsourcing nearly flat-lined the hospital at the University of California at San Francisco. To save money, the school had been sending out thousands of patient medical records for transcription. Halfway across the world, a woman in Pakistan had taken on some of the work. Things seemed to be working well for both – and neither knew about the other because of three subcontracts in between. That changed when the woman’s subcontractor in Texas did not pay. The Pakistani worker contacted UCSF and threatened to release the confidential patient information over the Internet if they did not help her collect, according to the San Francisco Chronicle, which broke the story. With that, outsourcing suddenly shifted from an unqualified business no-brainer to a risky financial liability. IT outsourcing was once essentially limited to software programming and staffing call centers. No longer now outsourcing tasks cover everything from storing sensitive financial, tax, and medical records to handling mission-critical database files [5].

V. SELECTING AN OUTSOURCE PARTNER

In [6], [7] Research indicates that nearly 80% of managers who have outsourced an IT function have terminated the contract early. Another survey conducted by the American Management Association reveals that 75% of managers thought that outsourcing failed to live up to their expectations. End customers don’t seem to have much confidence in the outsourcing process either within one survey 81% feeling that the financial benefits of outsourcing won’t be passed onto the customer. Others feel that outsourcing may be just another management fad or cure-all. Competition for outsourcing contracts is more cutthroat than ever, with a huge expansion in the number of suppliers, so some significant consolidation is on the horizon. According to a study by analyst IDC, cities in China will overtake their Indian counterparts as top destinations for offshore global delivery by 2011.

Beyond the so-called BRIC bloc of countries (Brazil, Russia, India, China—or BRICM, if one includes Mexico), developing nations such as Egypt and Poland are emerging as sources of offshore labor. The trend is not only for a "greater pattern of diversity" in the outsourcing sector, said TPI's Aitcheson, but also for greater specialization as smaller players seeks to distinguish them in an increasingly crowded marketplace.

Fig. 3 shows the priorities used for selecting an outsource partners [8]. Data collected from the sources which reviews and summaries of five articles on current outsourcing trends.

### TABLE I: LIST OF COUNTRIES WITH THEIR SKILLS AND EXPERTISE AGAINST APPROXIMATE WAGES [9]

<table>
<thead>
<tr>
<th>Country</th>
<th>Population</th>
<th>IT wage</th>
<th>English</th>
<th>Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>1.3 billion</td>
<td>$3 - 8k</td>
<td>Poor</td>
<td>Transaction processing, low-end software development and maintenance</td>
</tr>
<tr>
<td>India</td>
<td>Over 1 billion</td>
<td>$5 - 12K</td>
<td>Good</td>
<td>Application development, maintenance, call centers, financial processing</td>
</tr>
<tr>
<td>Philippines</td>
<td>77 mil</td>
<td>$5 - 10K</td>
<td>Medium</td>
<td>Accounting, finance, call centers, animation, human resources.</td>
</tr>
<tr>
<td>Russia</td>
<td>155 m</td>
<td>$6 - 10K</td>
<td>Poor</td>
<td>Web design, complex software development, aerospace engineering</td>
</tr>
<tr>
<td>Canada</td>
<td>107 million</td>
<td>$25 - 50K</td>
<td>Good</td>
<td>Software development and maintenance, call center, tech support.</td>
</tr>
<tr>
<td>Mexico</td>
<td>107 million</td>
<td>Spanish plus</td>
<td>Good</td>
<td>Spanish-language call centers, software development, data center outsourcing</td>
</tr>
<tr>
<td>Ireland</td>
<td>5.5 million</td>
<td>$25 - 35K</td>
<td>Good</td>
<td>European shared-services centers, software development, call center</td>
</tr>
</tbody>
</table>

Fig. 3. Priorities for selecting an outsource partner [9]
What’s best - you pay someone $1 an hour and they have to work 10 hours to create x, or you pay someone $10 an hour and it takes them 1 hour to create the same thing …?

VI. WHY PAKISTAN

Strategically located in South Asia, Pakistan is at the crossroads between Eastern and Western Asia. With three major international airports and thirty-eight domestic airports, Pakistan is accessible via fifty international airlines [1]. Pakistan's geographical location, a rapidly expanding transportation and communications infrastructure and an environment conducive to business makes it an attractive destination for investors [10], [11].

Pakistan is fast becoming the destination of choice for a significant number of international IT/ITeS companies looking to relocate their operations offshore [11], [12]. The ready availability of skilled professionals, an appropriate IT infrastructure, and affordable rates for connectivity result in considerable time and cost savings for entrepreneurs. Pakistan is emerging as the destination of choice for IT outsourcing in Pakistan for the following reasons:

1) IT workforce of 133,000 with good English language and people skills growing at a phenomenal rate of almost 20,000 a year.

A hundred and ten ISO-certified IT companies, with over 25 undergoing CMMI rating.

2) A reliable digital telecommunications infrastructure with backup and reliable energy and transport networks.

3) A steadily improving risk rating and a tightening environment for intellectual property protection.

4) A streamlined government regulatory process of one of the most attractive incentive programs anywhere, which includes tax exemptions, 100% foreign equity and earnings repatriation.

5) International leaders such as BearingPoint, NCR Teradata, Mentor Graphics and ZTE have chosen to locate their development and consultancy center in Pakistan.

Pakistan's advantages in comparison with neighboring countries provide Pakistan's scalability, reliability, low-cost environment and labor pool of educated English-speaking workers has no match. Pakistan offers five advantages over neighboring country [1]

1) Western experience: Executives at IT firms in Pakistan often have worked and gone to school in the U.S., which is Pakistan's largest export market. The willingness of Pakistanis to return home from the West stands in marked contrast to most Indians who arrive for school or work in the West and never look back.

2) Professionalism and integrity: The personal integrity of Pakistani managers is easy to identify and appreciate, especially by Westerners with business experience elsewhere in the region.

3) Higher labor availability: Fewer holidays in Pakistan means less slippage in staff availability.

4) Good accents: Pakistan's official language is English. Language skills and accents provide Pakistan with a major advantage over all other Asian outsourcing destinations.

5) Low cost talent pool: Pakistan's top-tier talent pool is largely untapped and turnover rates are less than 20 percent.

VII. CASE STUDY

We carried out a study in different parts of the world in which the focus was to find out factors that influence the outsourcing trends and general rating of outsourcing industry of Pakistan. This section describes the sampling method, data collection procedure and analysis used in the study [13].

A. Sampling Method Used: the Questionnaire was Floated and Information was Gathered from Different Location Around the World Through Email, Telephone and Interviews.

B. Research Questions: the Following Research Questions were Investigated

1) What are main types of IT functions being outsourced?

2) When IT outsourcing is being practiced, how extensive is the practice in terms of IT budget spend?

3) What is the length of the IT outsourcing relationships between the client organizations and outsourcing vendor, is it predominately short term or long term?

4) What is the main type of IT outsourcing relationship (contractual versus partnership style) being maintained?

5) How does the type of IT outsourcing relationship impact on the overall success of the IT outsourcing relationship?

6) What is the main reason behind outsourcing, any preferred location of outsourcing?

7) Any preferred location of outsourcing?

C. Sample of Study

Name: xxxxxx

Organization: xxxxxxxxxxx

Location: Tokyo, Japan

Appointment: Researcher

1) What are main types of IT functions being outsourced?

Software development, Hardware manufacturing, call centers.

2) When IT outsourcing is being practiced, how extensive is the practices in terms of IT budget spend?

It could range from $100 - $1million. Critical systems are not outsourced, only trivial application and non priority tasks are outsourced.

3) What is the length of the IT outsourcing relationships between the client organizations and outsourcing vendor, is it predominately short term or long term?

Depends on the experience. There are lots of choices for outsourcing now days, like china, Pakistan, India, Philippines
etc. So one has to cope up with the competition.

4) What is the main type of IT outsourcing relationship (contractual versus partnership style) being maintained?

   Bot.

5) How does the type of IT outsourcing relationship impact on the overall success of the IT outsourcing relationship?

   Trust, is the driving factor.

6) What is the main reason behind outsourcing?

   Infrastructure and human resource cost.

7) Any preferred location of outsourcing?

   China, Pakistan, India, Philippines

D. Data Collection

In first phase target countries were Japan, UK, and Australia. The result was compiled and analyzed from total of 24 samples collected from the focused countries. In next phase we will conduct study within Pakistan and some European and African countries.

VIII. FINDINGS OF THE STUDY

A. Most Preferred Location

Fig. 4 shows that India is undoubtedly the most favored location, while Canada, Pakistan and China are also among the preferred location for the outsourcing. India being the leader in IT industry around the world holds very strong grounds and seems to stay there for few more years.

B. Main Reasons behind Outsourcing

Fig. 5 shows the lists of reasons why people around chose there outsource partner and opt for outsourcing. By our study we found out that cost is the biggest factor causing the outsourcing. We also found that slowly trend is changing and community is focusing more on expertise and professional skill level rather than only cost and cheap labor.

C. Client Vendor Relation Ship

Fig. 6 shows the Type of relationship client and vendor would like to have. Our sample result suggests that most of the time it’s just the response and behavior of both the parties that decides the faith of relationship.

D. Partnership VS Contractual

Fig. 7 shows that around 50% percent of the time there is project led by two partners under some contract. There is no line separating the two. The companies feel more comfortable with old partners with whom they have been contracting.

REFERENCES

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