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Leveraging Web 2.0 for Increasing Competitiveness of Offshore-Driven IT Industry

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Abstract

The offshore IT industry is largely driven with an aim to reduce cost of IT services, leveraging labor cost arbitrage. The upsurge of US Dollar in the nineties with respect to weaker currencies like Rupees has motivated the US companies to send their IT work to countries like India, Russia, and Philippines. The rising labor cost in these countries was balanced by the continuous appreciation of the Dollar. With recent depreciation of Dollar, the IT companies whose labor force is mostly at offshore are facing tremendous challenge to maintain profitability. To overcome this challenge, offshore IT companies are looking at innovations that would increase the productivity of their resource pool and increase competitiveness in the market place. The authors being closely associated with IT Industry, shares their experience of leveraging Web 2.0 in solving this problem. Though the current paper mostly delves into IT industry, the benefits of Web 2.0 can be attained by a wide range of industries where knowledge-sharing, collaboration and co-invention by the employees are very important. Finally, authors have certain recommendations for any organization to make the best use of this paradigm shift to Web 2.0.

Keywords

Web 2.0, IT outsourcing, productivity, collaboration, knowledge management

1. Introduction

The IT industry in countries like India, Russia, and Philippines (called offshore) is heavily export-oriented and driven primarily by cost arbitrage. It leverages the difference between the cost of a computer programmer in these countries and that in an advanced country like US, UK and Japan (called onsite) to derive its profit. This advantage is reducing due to several factors like continuous increase in the average salary of the IT professionals in offshore countries, infrastructure cost escalation, strengthening of currencies like Indian Rupees etc. Though the average salary of the IT professionals in India was always on the rise, it did not create much problem to the industry since the growth rate was greater than 50%. Higher the growth rate, higher is the requirement for entry level programmers. To keep a balance in the pyramid, employees move up faster in the organizational hierarchy. In such situation, regular increase in the salary does not create any pressure to average salary of the company and new joiners (lower cost) keep compensating for the higher salaries of the senior employees of the company. However, there has been significant decline in the growth rates of the offshore-driven IT industry. It is currently averages around 20%, which may continue to decline further. In addition, the emergence of countries like China, Brazil, Argentina, Hungary, and Mexico as alternative destination for IT industry is posing serious threat to the traditional offshore locations. The problem of the industry is aggravated due to following factors.

1.1 Productivity

The productivity of the IT industry can be measured as revenues per employee. In this measure, Indian firms producing software are more productive per unit of labor employed than their counterparts in manufacturing [8]. However, the ratio of labor productivity in software to that in manufacturing is reducing, reflecting the fact that the productivity in the software segment is not increasing. The lack of proximity to end users (mainly foreign customers separating both in geography and time zone), lack of innovation in the Software Engineering (mainly, as it relates to onsite-offshore model, particularly in the areas of and software development process/tools), and the primitive state of the infrastructure in the country still poses a major problem in increasing the productivity.

1.2 Knowledge Arbitrage

From cost arbitrage mode, there are some limited successes in getting into the knowledge arbitrage mode where the driver of the outsourcing is the know-how or Intellectual Property (IP), not cost. More or less, the revenue of the Indian IT companies is directly proportional to their head-counts. Knowledge Arbitrage will attract higher revenue per employee and pose more defensible entry barrier against commoditization of software services. Like any other industry, there have been innovations in the Indian software industry and continuous drive to move into this mode. Indian Software vendors have limited success in obtaining IP, but in the Software service arena, there is hardly any IP which can seriously impose any entry barrier to competition.

So, the IT service industry is still predominantly dependent on the cost differentials. There have been efforts to better manage organizational knowledge, but they are confined mainly to managing the explicit knowledge, hardly any effort has gone to manage tacit knowledge across the resource pool causing customers to consider Indian vendors solely for the reason of knowledge arbitrage.

1.3 Innovative Deal Structuring

Indian software companies have so far been attracted towards the low-hanging fruits of outsourcing world. Neither have they had significant interest nor sufficient capabilities to clinch large and complex deals. With confidence on offshoring increasing, the customers are asking for bids with larger value and wider scope from the vendors. Key problems of the Indian software companies in this space include lack of expertise/tools to price large deals (with appropriate risk adjustments), lack of world-class marketing strategy and lack of network with partner vendors to cover entire spectrum of services under the scope.

1.4 Business Value Creation

Creating business value with information technology is not only about reducing costs and improving efficiency but also emphasizes on supporting activities that lead the customers to new markets, products, services and strategies. IT companies have adopted several approaches like aligning the organization by industry line (known as ‘Verticalization’), building competency in the business of the industry line, and consulting services to provide business value to their customers. However, the researcher believes that the customers, by and large, are yet to recognize the contributions.

In this paper, authors would like to share how most of the prominent IT companies are adopting Web 2.0 to address these challenges described above and the benefits that they are getting. Many of these benefits can also be obtained by other large companies where sharing of knowledge amongst large number of employees plays an important role in the success of the company. Like every company these days has embarked on a Web1.0 strategy in place, there will be time soon, when every company will need a Web 2.0 strategy as well. The authors have prepared a road-map for the company which does not have but wants to adopt Web 2.0 strategy.

2. Advent of Web 2.0

The bursting of the dot-com bubble in 2001 embodied a milestone and turning point for the web. Most of the technology and business communities concluded that the web was over-hyped, when in fact bubbles and consequent shakeouts appear to be a common feature of all technological revolutions. Industry leaders noted that far from having the bubble busted, it had started to leave certain indications. Most important of all, the companies that had survived the collapse seemed to have some things in common which have formed the foundation of Web 2.0. Since then, the term "Web 2.0" has clearly started building up dominance, with more than 300 million results appearing in Google for Web 2.0. Web 2.0 is seen as a potential replacement of Web 1.0.

3. Drivers for Adoption: An Offshore IT Industry Perspective

The main offshore destinations like India today have started to move from a back-office destination to an R&D destination, at least in Information Technology. This is reflected by the amount of development work going on in the various offshore delivery centers of global software giants. Since offshore model consists of teams that are geographically distributed, it is important to have a right and intended collaboration amongst the distributed teams. To gain the competitive edge in the fray of offshore industry, it is of supreme importance that apart from other value adds, cost saving by increased efficiency and better business decision (by availability of data and collaborative thoughts) plays a role.

The key drivers for adoption of Web 2.0 can be described

- Promoting reuse
- Availability of information by having an efficient Knowledge management system
- Collaborative team work to obtain results in shorter time cycle

3.1 Web 2.0 - Why does it matter in IT?

Owing to the nature of work of offshore IT industry, where multiple teams, multiple people from different background and context, need to collaborate, understand the common problem statements and provide solution, Web 2.0 has been appearing to prove the platform of choice. By adopting Web 2.0, the optimal solutions can be reached in a very short period of time.

In the past web 1.0 era, organizations were used to communicating internally and externally using channels like email, instant messages, office memo etc. In the recent times, companies are leveraging the technical and collaborative superiority of Web 2.0 on critical issues within a large number of people without spending much effort and elapsed time. Sophisticated usage include Podcast, Knowledge broadcast, broadcast search and express collective judgment that not only enhance the productivity but also helps to judge a problem from different angles and to find out the different facets of the solution.

Web 2.0 framework offers several efficiency enhancing components like RIA, blogs, wikis, and RSS. RIA along with social collaboration software enables various teams & individual to interact with content and with each other with their own innovative approaches. These tools also enable people to forge stronger and more participatory ties with other teams and associates and ultimately encourage more participation and build loyalty. Web 2.0 applications like blogs, wikis, and RSS are making human-centric processes more efficient and flexible by providing easy access to data, content, and expertise. In addition, these tools are beginning to plug into traditional enterprise data sources such as customer relationship management (CRM) and enterprise resource planning (ERP), making both new and old applications more valuable. As a result, collaboration between teams and individuals is becoming far more dynamic and productive, and the availability of essential business data is resulting in better business decisions.

3.2 Web 2.0 – Usage and needs in IT

Table 1 summarizes the usage and needs of component stack of Web 2.0 as observed in the offshore IT industry. The following are the software requirements to host applications that are built using Web 2.0 framework.

Table 1: Usage and needs of Web2.0 components in IT

Web 2.0 Framework Components	Usage in IT industry
Folksonomies	In the distributed offshore industry, various users while searching on a knowledge management system can see the tags created by other users and can quickly find out the related content on a shared resource. Not only it promotes the ease of use but also speeds up the search. This leads to user satisfaction and quick accomplishment of result. In offshore IT industry, there is an upward trend for folksonomies adoption.
RIA (Rich internet applications)	RIA is very useful in presenting the information, usage, description with drag and drop features. In the distributed offshore context, RIAs are accessible from independent and distributed locations. They do have the processing capabilities as of a desktop application; however they remain totally distributed in nature, accessible over the internet. This gives the offshore teams, the ease of location independence. In offshore IT perspective, until there is a customer requirement, the adoption of RIA is still emerging but on a very slow pace.
RSS	In offshore industry, using RSS, teams/technical associates can subscribe to various technical forums and can get updates of the latest industry trends and technology information, both internally (within the organization) and externally (analyst sites etc). This would help them to keep a breast with the latest technology/trends and help them be better equipped for the competition. The usage of RSS is observing an upward trends in the offshore IT trends
Weblog	Offshore industry can use Weblog in various communities /distribution groups to invite bright ideas as well as seek solution to issue by blogging it on common forum. Apart from the technology benefits, it has been noticed that Weblog helps develop closer ties and help build more loyalty between the team members. Usage of weblogs is one of biggest trends in the current times.
Microformats	For offshore industries, reuse is one of the prime ways to improve efficiency. Usage of microformats empowers the teams to reuse the existing content as metadata, using only XHTML and HTML classes and attributes. The current adoption trend for Microformat has been mediocre so far.
Mashup	It has been noticed that Mash up's have not been much adopted within the offshore service providers as well as business organization
CSS	Cascading style sheet are used to define reusable design templates, it helps in providing better look and feel to the user interface, thereby generating more user interest in participation. CSS has become a standard part of Web 2.0 implementation in both the areas, internal to the organization as well as to the customers. The adoption of CSS has been very high in the current times.
PodCast	Podcast provides an extended reach to its consumers and also provide a new and a different experience. Adoptions of Podcast have shown an upward trend in the current times. Important organization announcement/seminars can be communicated effectively to distributed teams and partners using Podcast.
Wiki	Wikis are often used to create collaborative KM internal websites, providing Quick reference compendium for pre-sales activities (RFP, RFI responses) owing to the shorter time scales and a repository for reference case studies. A centralized knowledge management repository promotes reuse of number of knowledge artifacts.

- A Web server that support Web 2.0
- Weblog application software for blogging and Wiki.
- Ajax backed Widgets
- A cryptographic framework for security message exchange
- An authentication database for user authentication

3.3 Web 2.0 - IT Service Companies Perspective

The section below mentions as to why Web 2.0 would be a trend to be adopted and is catching up fast, for offshore IT companies.

3.3.1 Rapid and Highly Efficient Execution for Customers

In a survey conducted by Forrester in US and Europe [1], CIOs of organizations cited efficiency as a motivation for adoption across each of the Web 2.0 technologies. Wikis and RSS were the most likely to be adopted for this reason, with 82% and 81%, respectively, of CIOs citing this motivation. The main aim of Web 2.0 is to provide efficient interaction with people, content, and data. Since collaboration is one of the main themes of Web 2.0, it is an ideal framework to be adopted by geographically distributed offshore centers. Being geographically distributed, offshore teams can make use of Web 2.0 collaborative channels and still produce the desired output in much shorter time scale as if to say output had been produced by a team of core specialist located at a single location.

One of the IT services companies where one of the authors is working has developed an integrated delivery platform leveraging Web2.0, called "Cognizant 2.0". Cognizant 2.0 is used by 64000 employees working across the globe. By using the platform, the average life cycle of the projects has reduced by 20% [9].

3.3.2 Developing Creative Services

In today's flat world, offshore companies are using their technical teams to its advantage by creating interesting new services that can be delivered via low cost Web 2.0 technologies over the web. Web 2.0's very low to free cost models for services offered has brought new businesses out in the open - businesses that were not given access to delivering and selling because of high infrastructure costs in the past.

3.3.3 Leveraging Community in Solution Building

A lot of the Web 2.0 participants are technical associates, who are typically interested in participating in challenging technical forums. Using blogs, wikis and other Web 2.0 sources, technical teams working in India and other distant places from customers, are able to solve critical technical issues for their clients. By leveraging technical support from communities, IT delivery teams are able to get the resolution much faster. This is due to the fact that, it is very much likely that one of the members of those technical communities/groups might have already faced and solved the problem.

3.3.4 Being Early Adopters

A lot of the Indian IT service providers have been in business for quite some time where they typically maintain a dynamic culture. This dynamic culture is open to experiment those technologies that brings high efficiency. This highly contrasts some traditional IT organizations in US and European companies where change management is slightly challenging and not that easy. Industry trends and Analysts report suggest that Web 2.0 could be the technology for tomorrow. If Web 2.0 gets adopted as expected in years to come, offshore companies will leap to the forefront of that movement by being early adopters of Web 2.0 technology and fine tuning it to fit their existing business model. This may be an opportunity for offshore technology companies, to be leaders in Web 2.0 movement by not only being power users but being lead developers of new tools and content.

4. Conclusion

In this section, authors would like to provide certain recommendations for offshore IT service providers.

4.1 Formation and usage of communities for business advantages

The organizations should use the results of a project that used Web 2.0 to provide efficiency framework (Blogs, Wikis), for delivery and measure the efficiency increase and discuss the usage in other projects with business-peers, management and technical teams. They should focus on how to create a highly efficient development ecosystem around applications and services, enabling the geographically dispersed workforce to work seamlessly.

4.2 Re-engineer processes so that they can contribute to service creation and agility

Organizations in different industry segments are looking at Web2.0 in different degrees to improve their business performance. For example, retailers are using Web2.0 for increasing their reach, differentiating

consumer experience and sustaining customer loyalty [10]. Similarly, in the Insurance space, Insurers are combining Mashups and traditional applications to come out with very powerful business applications. For example, one of the IT companies has built an application which will use publicly available Mashup data regarding any upcoming hurricane, flood or any other disaster to assess the likely impact on the policyholder of the insurer. This will help the insurer to set aside right amount of cash reserves well ahead of the actual claims. For building powerful Web2.0 business applications, significant engineering of the existing process are needed, for improving agility and creating a continuous feedback loop with an extended and empowered community.

4.3 Selectively nurture development with RIA and dynamic language

From a longer term perspective, recruit and train architects & developers in Web 2.0 technologies like Ajax, RIA and scripting languages. Product vendors are coming up with number of products which is making implementation of Web2.0 easier. For example, one technology company is able to develop Web 2.0 assets three times faster with IBM WebSphere sMash product [11]. IT companies should invest smaller teams engaged in these technologies/products to drive the service creation to gain early expertise and track evolving standards.

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