Nearshore Outsourcing for Engineering Services

Engineering Services outsourcing is a relatively new service offering of Global IT companies looking to expand their service portfolio. Compared to IT outsourcing, engineering outsourcing offers different and new challenges to both the customer and the vendor. The principal opportunity for engineering outsourcing is accentuated by the following dynamics observed in the market:

1. *Need: Creating and sustaining a shorter innovation cycle*
   The Shelf life of products is becoming shorter, accelerating the pace of innovation.
2. *Need: Faster innovation*
   There is a great demand for quicker new product introduction, with attendant price pressures on products. Innovation is the name of the game today
3. *Need: Globalized product knowledge*
   Cost of product introduction is going up year on year, with manufacturing process and marketing costs going up. Outsourcing has the potential for reducing 'manageable costs'. There is a need to introduce new products for the emerging markets at a different price point and functionality than in the US
4. *Need: Scalable staffing models*
   All this puts a budgetary pressure on engineering department. They are unable to predict the need for sudden expansion and contraction requirements of their internal teams.
5. *Need: Distributed support for IT and Engineering systems*
   Products are conceived, designed, manufactured and maintained in a collaborate manner, unlike the homogeneous mode of yesteryears, e.g. Boeing's Dreamliner.
6. *Need: Reduce product maintenance costs*
   Multiple versions of the products need to be maintained for a longer time than before, to cater to widening customer base, but at a lower cost.
7. *Need: Reduce the "Total" cost of manufacturing*
   Audit trail and regulatory requirements place additional burden on engineering

In response to such pressures, many U.S. companies have started the process of replicating the success in IT outsourcing, and are trying to offshore engineering services. This worked well for low level engineering work such as drawing conversion. However, at higher skill levels, complexity in outsourcing increases due to the same challenges listed above. With changes to the engineering practices (by increasing analysis upfront, reducing prototyping costs and bringing all the stakeholders quicker into the product development cycle), the challenges mount. Having different sections of the team at different levels of understanding of this cycle increases the load of governance of offshore teams (*leading to increased costs*), misapplied knowledge appropriations (*leading to increased costs*), attrition (*leading to increased costs of retraining and also increasing the project turnaround time*), loss of time to market thereof (*leading to increased costs*), having to work across not only cultural diversity, but language barriers(leading to increased costs), IP protection (*leading to increased costs*) - - at this point, the cost benefit analysis starts to look a little different than what is assumed at the start of offshoring exercise.

Most customers who have outsourced engineering services have discovered significant problems with quality of resources, attrition, productivity, and timely completion of projects.

There developed a view that offshoring must be tolerated even though the users are NOT since there is a commercial savings potential. However, it is clear to everyone involved in the offshoring business that the **net effective cost** of offshoring is much higher than the actual costs paid to the vendor of offshore services on a man-hour basis. In engineering, this is even higher, and leads to many situations where the actual savings and time to market risks no longer justify substantial offshore effort.

However, there continue to be some advantages to offshoring:

1. Long-term benefits of ecosystem development policies of hiring and training talent including building various skills required
2. Lower costs due to the Judicious mix of Specialized and generalized skills in the same team
3. Certainty of results owing to Focused management

Nearshore services offer comparable costs to offshore services, yet offer significant benefits in very low attrition, higher quality workforce, world class infrastructure, process reliability, and IP protection

completely satisfied with all the delivery issues,

4. Improved reporting and integration efforts from offshore team managements

There was no alternative to this situation, at least till now. **U2SI** intends to provide a compelling alternative to change that.

US economy has changed substantially over the last three years. Rise in unemployment* *(Ref 1. Andy Grove)* has left many subject matter experts (SMEs) and skilled engineers in the US unemployed. The general slowness in the economy has kept costs moderate in many parts of the country. Yet, the general education and skill levels of the workforce in the country remained unaffected. This situation provides a unique opportunity to form an outsourcing experience in US itself, creating effective engineering development in USA, while keeping costs comparable to offshore service companies AND avoiding all the unpleasant effects of offshoring. The answer to the challenges shown above is to try and bring the advantages of offshoring and onsite work into a new model, yet retain the primary benefit of all these – price advantage – and make it absolutely attractive compared to the offshore costs. **U2SI** set out to create such a model and succeeded in working out a cost benefit analysis for a **Nearshore model** of engineering services delivery.

The significant goals of a successful Nearshore model for **U2SI** are:

1. Ensure price comparability with experienced, net effective offshore aggregate costs; our aim is to help

customers control their costs, just as with offshoring
2. Ensure process reliability in delivering an outsourced engineering service
3. Ensure time to market issues are addressed effectively
4. Ensure seamless work integration with customer's in-house teams
5. Integrate tool usage with customer's in-house teams
6. Meet the growing numerical and sophistication requirements of the customers
7. Ensure cultural, educational and attitude compatibility of **U2SI** teams with customer's engineering teams.
8. Take advantage of excellent infrastructure and low attrition in US.

Some of these goals might seem to be counter-intuitive to matching offshore price comparison. However, a careful study of the US market, geography and government incentive programs allows us to create the Nearshore model that addresses these concerns very effectively.

The idea is to get high quality work done with highly educated, properly skilled and trained workforce supported by Subject Matter Experts (SMEs) by adopting some of the best practices that made Indian IT outsourcing companies successful. Constant hiring and training of personnel from good universities, utilizing the successful development practices coupled with personnel management and training, **U2SI** has a winning model for Nearshore outsourcing.

For the customers, the Governance mechanism that ensures this model works is simpler than the offshore model, and more importantly, less cumbersome and hence less expensive than the governance part of the offshore model.

Attrition*, *(Ref 3.NASSCOM HR meet, Chennai, India)* which is a major factor in offshore outsourcing (the attrition rates in India have touched 20%) places engineering programs in disarray frequently and has implications on IP leakage and retraining. In Nearshore model, the attrition tends to be very low, and will have little bearing on manpower calculations. Scaling is not a problem if vendor's top management can bring the offshore management expertise into the Nearshore process, and allow the local universities to act as the manpower hinterland to this operation. So Nearshore outsourcing is a highly viable model.

U.S. Federal and State governments have incentivized job creation in the U.S. **U2SI** intends leveraging Tax incentives in creating new jobs, and other localized incentives where possible.

As pointed out before, in a fast changing product introduction space, the faster an organization is able to innovate and invalidate its own products, the better its balance sheet will look. This puts enormous pressure on the engineering departments to bring new products to market faster. At the same time, the demand for getting the engineering budgets lower is significant. There is no time or other convenience for engineering departments to work with offshore teams, which excel more in a packaged, clear-cut and defined work environment. The Nearshore operation, on the other hand, will give the customer's engineering teams a group of professionals that can be used as a flex force to add on when in need, and cut when not. Today, when engineering is such a collaborative and interdependent activity, having external teams work in an integrated, iterative and collaborative manner is a good choice for the customers.

The Nearshore operations, when operated according to this model, are attractive to customers* (Ref 4: US looks onshore for back office operations). Costs experienced by the customer are going to be comparable but the benefits far outweigh the offshore models.

A question that is genuinely asked is: engineering companies around USA have been working with customers for a very long time. What is different about this model?

Most engineering companies work with customers in the onsite model. They then take the work away and complete the project and deliver it back for integration with the rest of the product development/maintenance work. Their work is not low cost: the rates tend to be very high. **U2SI** has a different process: the teams that we deploy in Nearshore operation are an integral part of the customer teams (just as offshore teams attempt to be), act as a flex force, yet make it possible for customer teams and Nearshore teams to be integrated and work in a collaborative way. The Nearshore teams do not expect to be traveling to onsite locations, just like the offshore teams. The interfacing of the teams occurs through specified resources located onsite, just as offshore teams do. Thus, this happens at a price point that is comparable to aggregate, net effective offshore costs. **U2SI** is ready to elaborate and discuss the models to the satisfaction of the customers.

U2SI – the alternative to offshoring hassles at comparable prices.

References:

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2. Rural outsourcing in Arkansas and Missouri: cnn.money.com, July 8, 2010
3. NASSCOM HR meet on Attrition and related issues: The Hindu, July 29, 2010
4. US looks onshore for backoffice ops: Economic Times, August 1, 2010