



# Projects being Outsourced to Offshore Service Providers

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Offshore Outsourcing has seen a steady, healthy growth from a trickle in the early 90s to over \$6 Billion by the year 2001. There has always been a shortage of technical resources and this to a large extent contributes to this growth. There are other reasons too:

- **CHANGING ECONOMY** The economy is undergoing transformations – from hyper growth to recession. Outsourcing becomes a necessity in either situation. In a growing economy outsourcing helps to quickly ramp up resources onto development or support activities while internal development works to meet the needs of the market. In a slow economy work still needs to be done and companies look for low cost alternatives to help get the work done.
- **SHORT AND MEDIUM TERM FLUCTUATIONS IN THE MARKET.** Outsourcing helps to manage these fluctuations as outsourced teams can be quickly assembled or disassembled.
- **CORE COMPETENCE vs. SUSTAINING EFFORTS.** Vertical integration or “doing it all” has its limitations in an economy that change fast. Enterprises are re-inventing themselves, introspecting to identify what is

core and what is peripheral or non-core. All operations that are non-core are being outsourced to Companies offering competence and cost advantages. This has happened in Manufacturing. This is happening in Software. Technology Companies are looking at what part of their work is core and retaining these, outsourcing the rest. For enterprises, running of the business is core, the IT systems that encapsulate the business processes and the metrics for different operations are critical, its implementations and Maintenance though can be outsourced.

- **INCREASING PRODUCTIVITY.** Low cost outsourcing lowers the overall cost of development increasing productivity
- **CHANGING BUSINESS MODELS.** Business models are rapidly evolving to an increasing e-Economy. Enterprises are outsourcing parts of their manufacturing to a growing list of supply/chain partners. The new demand channels and the supply/chain have to be integrated with internal systems. All inward facing applications have to be made outward facing and offer conveniences or functionalities that may never have been planned.
- **GLOBALIZATION OF BUSINESS.** Globalization brings in new locales, new laws, different business practices, business models and business processes. These change internal systems. Finding Agencies that understand a "locale" quickly helps to align the processes to the new locale.
- **MOBILIZING LARGE TEAMS AT SHORT NOTICE** Building teams take time and money. On the other hand Companies that take projects on contract operate in countries that are not resource constrained and have built their core competence in mobilizing large teams, training them and making them productive in the shortest possible time.
- **ENHANCED CUSTOMER SATISFACTION.** Outsourcing presents an opportunity to create teams in geographies that can respond in real time to customer problems. Teams can be built to provide 24x7 support to customers at low operating costs.
- **END OF LIFE PRODUCT SUPPORT.** Some companies outsource end of life products support to outsourcing agencies. This frees the companies to focus on current efforts. Software companies outsource product porting and maintenance on Tier 2 and Tier 3 platforms keeping Tier 1 platforms implementations for internal teams.
- **GLOBAL DEPLOYMENT** Companies outsource to regional teams for global deployments and rollouts of their solutions.
- **MISSING COMPETENCE.** Enterprises lacking skills in certain disciplines outsource to get the benefit of skilled teams.
- **SPECIAL NEEDS.** The Year 2000 conversions and the Euro conversions are examples of events that have led to increasing outsourcing. Companies that have undertaken such remediation and conversions can now maintain these applications.

- **PRODUCT RE-ENGINEERING AND RENEWAL.** Applications that are written in legacy languages or operating environments that are end of life require to be renewed to new languages and operating environments. Such renewal can be outsourced.
- **MIGRATION** from monolithic to n-Tier Applications can lead to outsourcing

The technology companies took an early lead to Software Outsourcing. The early years were difficult which is not unusual for any new business model. Over the years companies have matured and built enduring processes to protect them from failure.

As business models matured large Mainstream companies began to explore the potential for Offshore Outsourcing. Countries like India were well positioned and supported admirably by its Government and emerged a front runner taking almost 90% of the total Software outsourcing.

## **WHAT IS BEING OUTSOURCED AND BY WHOM**

### **HARDWARE, TELECOM AND NETWORKING COMPANIES**

- Systems Integrity Testing – any new release of software is tested rigorously to detect any problem prior to its roll out to the field
- Maintenance and Bug fixing – Any bugs that are detected in the field or during testing are fixed per a determined schedule.
- Porting of software to different operating systems
- Internationalization of Software
- Maintenance of end of life products
- Testing for Conformance to standards or interoperability with other equipment
- Verifications of Application Specific Integrated Circuits (ASICs)
- Development of Device Drivers
- Customer “specials”
- Performance testing
- Development of Network Management Systems and Applications
- Testing of protocols
- Geo centric conversions/ enhancements
- Call centers

## **PRODUCT SOFTWARE COMPANIES**

- Testing – white box, red box, black box
- Porting to different operating systems
- Maintenance and Bug Fixing
- Internationalization of Software
- Customer Specials
- Generating of Automatic Test Beds
- Network Management enabling
- Bridges to other applications
- Re-engineering and renewal of Applications (C to C++/ Java)
- End of Life Product Maintenance
- 24x7 Customer Support and Call centers

## **END USER / IT PROJECTS**

- Applications development
- Remediation – Euro conversions etc.
- Maintenance of existing Applications
- Re-engineering/ enhancement of existing applications
- Enterprise Applications Integration
- ERP Reports development
- CRM development
- “Webifying” existing applications
- “Proof of Concept”
- Data Entry
- E Commerce Applications development
- Migration form one environment to another
- Global rollouts
- 24x7 support and Call centers

## **SPECIALIZED APPLICATIONS**

- Engineering Drawing Conversions from paper to electronic
- Medical Transcriptions
- Development of Electronic Catalogs
- GIS Mapping
- Structural and Thermal Analysis
- CAD/CAM/CAE
- Development of Application Specific Integrated Circuits (ASICs)
- Verification of ASICs and Microprocessors

- Development of Embedded Systems for specialized applications (Auto, Medical, hand-held etc)
- Development of newer protocols
- Layout and Routing of Hardware Printed Circuit Boards
- Development of Cell Libraries
- Development of Computer Based Training Courseware
- Call Centers
- Development of Integration frameworks

### **What about Product Development?**

Companies have undertaken product development most successes have been with companies that have set up their own captive offshore development centers. We have seen product development outsourcing to service providers and have observed it to be an extremely challenging exercise. Distance poses a huge barrier to product development:

- Product development is more conceptual and therefore ill defined or precise in terms of requirements. Service providers work well with requirements that are well defined. It may be easier to outsource a product development that conforms to an international specification such as a protocol as long as the company can explicitly articulate the performance requirements. For example a Routing protocol can be built to an international standard and is well defined but its intended usage could be in a core router, a SOHO router or an ISP class router each having different performance requirements.
- Product development requirements change frequently to market situations. A hot must need might suddenly become low priority as competitive offerings create features that may never have been planned for. Some of these needs could be extremely disruptive.
- A product development requires cross functional teams to huddle frequently to discuss and debate approaches, features, functions and algorithms.
- Product development sometimes uses cutting edge first generation technologies that by themselves are not without risk and require experts from these companies to work together to solve problems being encountered.
- Concurrent engineering is even more challenging as the infrastructure software and its interfaces are undefined. In other situations the offshore team will be working on software that has to be interfaced to software being developed locally and this

local development and its interfaces frequently change. Maintaining the communication, documentation and frequent face to face dialog can be a huge challenge.

Outsourcing companies should consider carefully the projects that need to be outsourced. Good candidates for these projects are:

- The development is standalone with no dependence to any external software. Good examples are Porting, Quality Assurance and Bug fixing.
- The requirements are extremely well defined, the performance and acceptance criteria are well defined and the interface specifications to external software are fixed and well defined.

As companies gain expertise with Offshore outsourcing and its service provider it can attempt to build software concurrently with the service provider. This can be done by using a tag team approach with a small team from the service provider resident and working at the customer's local facility and a large team of the service provider working from the offshore facilities.

A partnering approach and a professional relationship can go a long way in making the relationship work.



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