

Effective Management of offshore Development
By Kasi Murthy - TCS

About the White Paper:

This document contains information that will help to effectively manage a successful offshore project. It also contains importance of onsite-offshore co-coordinators role.

About the author

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1.0 Introduction

There was an article in internet about the survey conducted on offshore projects. According to a report, survey of over 5,000 IT users in North America and Europe has found that 36% of offshoring projects fail. Reasons cited for failure were poor communication, cultural differences, lack of expertise, performance and time differences. The main cause of offshoring failures is a lack of preparation, poor execution by user organizations, management gaps and unrealistic cost saving expectations. A big part of the failures stems from inflated expectations. In particular, cost savings are frequently overestimated.

This document is intended to provide an overview of effective management of successful offshore projects and benefits that can be achieved. It will touch upon the challenges that exist with issues such as language and cultural differences, time zone barriers, unfamiliarity with offshore providers and best practices that can be adopted.

1.1 Benefits

There are a lot of benefits that accrue because of this model. Some of them are:

- Cost savings
- Speedier time to market
- 24-hour workday (time zone advantage)
- Expanded team for the client
- Access to scalable pool of great talent
- Better utilization of local staff for core competencies

Even though this document covers details specific to SAP engagements, most of the processes documented herewith can be tuned to suit any project of a similar nature. On the same lines, the challenges faced while managing the SAP development offshore (covered in detail in subsequent chapters) are fairly generic and can be treated as typical risks that need to be identified and managed in similar projects. All the lessons learned and best practices are covered in some form in the document.

2.0 Challenges for offshoring

2.1 What to Offshore

Many companies think that project of any size can be offshored and get benefit out of it which is wrong in most cases. A common mistake, for example, is to project savings by simply calculating the wage differences between consultants in the U.S. and India. The problem is, labor isn't the only cost associated with moving overseas. Companies that understand labor is not the entire story usually realize whatever cost savings they expect. Those that don't wind up disappointed. Offshore setups require all employees to adjust their processes and get used to a geographically distributed development process that is unfamiliar and requires a re-evaluation of roles and responsibilities.

For example a company ABC has a short term project requirement which should be completed in 4 months by 15 people. This company incurs lot of costs in establishing communication links, transferring business knowledge and giving access to intellectual property to offshore team, cultural differences will sure become barriers. It takes training and skills development to turn technology-focused IT workers into business-focused IT workers. You will also end up having performance problems. Productivity can eat away at labor savings. Over the years, however, the quality of offshore work has gotten better, particularly in certain focus areas, but gaps remain. The cost of executing short term project onsite will almost be equal to the cost of executing this project offshore. If this company has on-going projects which can be offshored, then it is best interest for the company to go for offshore model and have a dedicated team to establish processes that deals with the day-to-day needs of offshore model. This will effectively use growing international talent pool combined with lower communication costs. Also, this approach can be re-used between projects by continues improvements in the process. Unless a company is in it for the long haul, offshoring doesn't make sense. "There are no benefits to gain in the short term".

You cannot expect more than 15 to 20% of the cost benefit in the initial stages of engagement. Benefits will gradually increase in the due course of engagement when the team beefs up with business knowledge and processes. Challenge also exists in holding on to the talent pool between projects.

Services that are traditionally sent offshore include application maintenance work, custom application development, data entry, customer service and technical support. Few years ago, there was a general lack of experience in customizing packaged applications such as those from SAP, People soft, Siebel and Oracle, but many providers now have gained experience.

Considering SAP's ASAP methodology, Project Prep and Blue Print phases should always be done at onsite because it involves day to day interactions with the business to understand the requirements. Realization, Final prep and go-live (maintenance) can be offshored.

2.2 Whom to Offshore

Companies say the biggest benefit of using offshore providers is cost savings because wage rates overseas can be as low as one-tenth of what comparable workers earn domestically. But companies also are seeing other benefits, such as increased flexibility - the ability to grow and reduce the number of workers, 24/7 work schedules because of time differences and access to a broader range of IT expertise. Interest in offshore option is growing because benefits are more for less money. Challenges also exist with issues such as language and cultural differences, time zone barriers and unfamiliarity with offshore providers.

The success and failure of offshore model depends on choosing the right provider. The challenge for offshore providers is to accrue more business-focused expertise, such as people who are comfortable with how processes work in industries such as telecom, insurance, Oil&Gas, healthcare, banking and finance. Vendors having vast experience in executing onsite-offshore model projects will have very well laid out processes to manage such engagements. You should also look at their CMM level capabilities. This will enable the re-usability of processes and reduce time and cost involved in engaging offshore model projects. A visit to vendor's premises to have a feel of similar engagements would really help determining the capabilities of the vendor. For example, Companies of Indian origin like Wipro, Infosys, TCS and Satyam has proven onsite offshore model projects most of them achieved level 5 in Capability Maturity Model(CMM). The other factors that need to be considered in a provider are,

1. Specific Industry experience
2. SAP Practice
3. Quality Group
4. Infrastructure
5. Management support

3.0 Managing the offshore development

3.1 Processes and Tools

Companies aren't paying enough attention to how they manage the people involved in offshoring projects and how they make the transition to a distributed workforce. Communication problems that aren't addressed early in the process continue to fester and impact project delivery. Remember, effective COMMUNICATION plays a major role in offshore models.

Plan the phases of the project and develop clear responsibility matrix in the early stages of the project. For example, requirements cannot be collected by a person who is sitting thousands of miles away. As a rule, anything that a client can cleanly specify and deliver as a firm requirements document to the offshore team is most effective. Clear, complete specifications are a must-have. But that's not always common practice in U.S. companies. There needs to be more robust processes for gathering requirements, and you have to write much better functional specs because you're handing those off to someone else. Without that discipline, a project can take three times as long to complete offshore as onshore.

Below given is the brief summary of development process that an offshore team can perform. Please note that there is a mention about templates, standards and review documents that should be used at various phases of the project. These should be pre-defined and existing before the start of the project. They are not provided as a part of this topic.

1. Approved clear and concise Functional Specifications will be the starting point for the technical development team to start working on Technical specifications.
2. Analyst will conduct interactive walk-through with the Development team member responsible for writing technical specifications. Development team member will seek all clarifications with the respective Analyst before giving sign-off to start Technical specification.
3. Respective checklists will be used to determine the completeness of Technical specs.
4. All documents should be named as per the file naming standards that were defined prior to the project start up.
5. Peer Reviews (4 eyes) will be conducted after completion of Technical Design document by other team member to check for completeness and accuracy.
6. Approved Technical specs will then be handed over to the programmer for coding and unit testing.
7. Programmer will conduct an interactive review with the tech designer before beginning to code. The responsibility of the reviewer is to obtain satisfactory proof that the programmer understands programming effort that will be required.
8. Coding and Unit Testing efforts will consist writing the specific code and then performing tests to assure that code meets the requirements documented in the technical design. The coding activities will have numerous coding standards and naming conventions.

9. After Coding and Unit Testing, String Testing activities are conducted. The intent of string testing is to begin the validation that the newly coded object meets the need defined in the functional and technical design. For interfaces it will also validate that the sending and receiving system changes are working together successfully. For conversions and system changes it's a first chance for the analysts to assure all the parts/components are working properly. For changes that included a change to the SAP footprint (e.g. new SAP interface), the Technical Development analyst will be accountable for working with the satellite system in performing this test. The interface and conversion leaders will again be accountable for overseeing the completeness and accuracy of the string tests conducted by the Technical Development team.
10. String testing is primarily the conclusion of the activities directly under the control and direction of Technical Development. Most of the developer roles will continue after string testing on other roles that are under the direction of the testing and cutover leaders. These activities will include performing mock and actual cutovers, participating in expanded interface testing. Technical Development team will still maintain accountability for fixing problems found during these other aspects of the project.

3.2 Templates/Standards/Checklists

Following documents are necessary to ensure a consistent and quality outcome from the offshore development team. Note that these are not limited.

1. Templates
 - a. Functional Specification Templates
 - b. Technical Specification Templates
 - c. Technical Specs review Templates
 - d. Code review templates
 - e. Unit test templates
2. Checklists
 - a. Functional design checklist
 - b. Technical design checklist
 - c. Coding checklist
 - d. Final deliverables checklist
3. Standards
 - a. ABAP Naming standards
 - b. ABAP coding standards
 - c. File naming standards

3.3 Importance of Onsite-Offshore Coordinator

A onsite-offshore coordinator serve as an onshore point of contact for offshore team members. He acts as a liaison between onshore engagement team and the offshore team. A transparent communication between the analysts and offshore developers is a big necessity. Engaging a dedicated onsite-offshore co-coordinator bridges the communication gaps. He will be responsible for effectively integrating the offshore team with the overall engagement. This has become a common practice in recent years. This person will be from the performing organization who understands the cultural differences. This person will work from onsite with a few hours of overlapping timings between onsite and offshore. He will lead the effort in bridging cultural gaps thus eliminating this risk as discussed above.

Although these activities seem to be quite independent, the onsite and offshore teams have to work in close coordination with each other. The onsite-offshore coordinator has to be aware of the status of each development or enhancement request. He also has to act as the teams' representative to the client and resolve some critical issues whenever required. The coordinator has to be aware of the availability of both onsite and offshore team members so that during peak times he can easily coordinate between the two teams and deliver the requests on time.

Primary responsibilities of offshore coordinator include but not limited to

Controls & procedures

A cohesive team with management backing, communications, development processes including standards, templates and review procedures, proactive issue resolution, and quick decision-making will ensure success of the project.

Quality control

Assuring that high standard solutions are produced out of the development team by encouraging team to conduct stringent peer reviews. See to that standard procedures are followed in solution.

Status monitoring

Daily status review with offshore team leads to check if there are any missing deadlines. Impact to the project scope, budget and schedule should be communicated.

Issue and Risk management

All issues will be clearly documented and logged. Any critical issues with significant impact to the project are highlighted to the management committee for rapid resolution.

Feedback process

Feedback is one of the most critical processes in any software development life cycle to ensure that the development is on the right track. The following methods are adopted for effective feedback

- Daily communication between offsite and offshore coordinator to take care of the operational issues.

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- Offshore team visit before start of critical phases of the project for imparting training and setting expectations from the team.

- Weekly status review meetings between the onsite/offsite/offshore teams

Some of the factors that are of very high consideration for a project to be successful are:

Transparency – This signifies a transparent communication with the client. The client should be aware of the status of each request, the problems being faced by the developers on the request, the chances of the due date being missed and the reason for the same, etc. This helps the client also to take necessary steps in advance and be prepared for any eventuality.

Time – Time is the most critical factor here. The teams have to be managed in such a way that even during the peak times the teams are able to deliver the requests on time.

Teamwork – Good teamwork is of utmost priority in a successful project. The number of work units coming in from the client can be high at times and there has to be a blended team working together on these work units. The team leaders have to constantly act as troubleshooters for their team members so that they don't get stuck anywhere and lose precious time on any issue.