Factors that Affect the Offshore Model
To begin, I’ll do a brief overview for four major factors affect the offshore development model:

Organizational Development Factor
Software Applications play a major role in organizations which follow a defined business process. The requirements are different types, ranging from normal application, website, multimedia solutions, all the way to enterprise portals. Time, cost, and technical knowledge are the most important aspects, and impact the achievement of company goals. Often, there is a lack of qualified workforce to manage the software development activity, as the management is more concerned with business development activities. Adopting IT outsourcing methodology enables achievement in quality, availability of a large pool of expert software developers, and huge savings in labor costs.

Financial and Cost Factor
To sustain today’s highly competitive market with short product lifetime, software development projects need to stay within budget, be innovative, and deliver according to the end-users expectations. As many projects run over budget, reducing production cost is essential. One popular and effective means to cut cost is outsourcing. An offshore-outsourced software development model is a frequently used means of cost reduction. However, certain company processes might have to change before incorporating an offshore vendor into the mix.

Skills and Technology Factor
Technical knowledge and the urge to complete the job faster is the bottom-line of any organization which requires a Software Solution. (Eg: When the Agile development methodology is followed and SCRUM practices are implemented, then it should be mandatory that at least the leader be a Certified SCRUM Master. Whether the certificate is a proof of the knowledge or not, it definitely proves that the leader is fond of learning and exhibiting latest processes and technologies.) Technology and business needs change dynamically; the offshore technical team should be well
equipped with the latest framework, methodologies, and technologies which could prove to be one of the core reasons for success of the offshore software development team.

**Revenue Factor**
The ultimate goal of any business or new product is to generate revenue for the organization. Your offshore partner should be providing you with solutions that deliver the first phase of your product with minimum features to meet business goals. This way your revenue can be started the earliest possible. Onsite teams use multiple tools and techniques to measure development productivity. Similar Tools and Techniques will do well for the Offshore Development Team also.

Within these factors, I mentioned a change in processes, methodologies, and helpful tools which can contribute to success in offshoring. The upcoming parts of this series will cover these topics and provide insights into best practices for a successful offshore relationship.

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**Overcoming Offshore Challenges**
Selecting the right offshore partner, the right developer, and managing time differences.

**Selecting the right offshore development partner**
The offshore software service provider needs to understand the organization’s expectations and project needs for offering user-oriented services and maximum benefits. This way, they help you gain the leading edge over competitors.

When a company is looking for an offshore software development company, they should first know to identify the company which follows process and the advanced tools and techniques. The company should also have a strong IT recruiting team to cater immediate requirements.

The three major aspects—development, innovations and implementation are main keys of success and growth. By considering all three factors, they offer excellent offshore software development services to the customers. For your challenging project requirements, you can outsource your needs to a software company in India which has the infrastructure, and ability to hire software developers and handle the niche technologies. It will not only save overall development cost, but will also save your valuable time and money in setting up a new infrastructure.

Indeed, many offshore IT outsourcing companies mainly focus on business scope, size, target market, customer needs and product delivery time. With better monitoring and controlling system, they apply the latest technologies and deep market insights while implementing profitable business solutions.

The best part of development services from a good offshore company is that it provides cost effective application development solutions without compromising with the level of quality. Moreover, expert developers of such companies provide better maintenance services to solve project-related queries as well as promote the solutions according to the requirement

**Selecting the right developer**
Conduct the interview of the offshore developer to not only assess his or her technical skills, but also the ability to communicate with people who use different accent and pronunciation.
One of the core areas which the interviewer should concentrate is the whether or not your candidate has a good attitude about an adjusted schedule to better fit with U.S. time zones. You may have to spend a little more time scrutinizing the candidate, but this will enable you to get a resource with more durability and strong technology skill. Interviewing this way will eventually create a pool of dedicated software developers.

A certification in the technology or methodology could be set as a criteria for your candidates. By understanding the work culture of his/her previous organization, one could judge if the candidate would be able to adapt to the work culture followed by yours.

Fortunately, the problems associated with an offshore time difference can be mitigated to some degree. The onshore work scheduled may be pushed up to increase the time for interactions. A 7:00 AM meeting may not be your ideal start to the day, but it would start you off on the right foot with an update on the progress of your offshore team.

**Managing time differences**

This is we operate at EC Group: at 11:00 PM EST, your colleagues in India will be arriving to work at 9:30 AM their time. The development work continues while you sleep soundly. However, to make this happen you have to follow a predefined process. If this happens, you can leverage the time differential for a non-stop operation that runs day and night.

Different stages of a software development life cycle require different levels of communication. It can be difficult getting the answers you need right when you want them. A query that can be answered within a few minutes by someone in the next cubicle might take until the next day with offshore. If your query is not understood or communicated clearly, the back and forth might result in days passing before a problem is resolved.

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**Project Management Tools and Testing**

In general, emails, instant messaging tools and project management tools are main modes of communication. However, you ought to take into account the weekly status updates for working progress, face-to-face video conferencing, daily standups and even onsite conferences.

One effective solution to overcome task handling and monitoring difficulties is to follow agile methodology. The latest project management tools and techniques are great for offshore project supervision. The deployment of Certified Scrum Masters to handle sprint planning ensures the Scrum process is practiced spiritually to align with the timeline and quality of delivery.

**Project Management Tools and Techniques**

There are several project management tools available as open source or paid service, but what really matters for most of the companies’ offshore development practice is whether or not those tools are a complete solution for their problems.

A particular tool might be the best solution for communicating with the offshore development team, but may not be ideal for sharing the tasks or monitoring the development activities. Other tools may be ideal for monitoring and sharing tasks, but have no feature for communications.
In most of my recent engagements I have seen both the internal teams and the client side teams facing problems due to the incomplete availability of features in the readily available tools.

When the situation of identifying the right project management tool occurs, the offshore partner should be capable of giving the right solution. Perhaps a better solution is to develop a customized tool which can be integrated with the readily available project management software to have all the required features a complete project management tool should have. This enables us to work on the basis of a complete management system which manages productivity, timeline and cost. The methodologies of utilizing a customized tool may differ but it should serve its purpose.

One of my teams was using a readily available tool for their project management activities as suggested by the client. However, like all the other less-complex project management tools, this one also had limited benefits.

The tool was good for communication, interactions, and project activity updates (as outlined by the diagram to the right.)

However, what it really missed was the task list, time estimation and task status update. A custom tool was developed keeping in mind the features which are required but not available in the current tool. That piece of developed tool was integrated with the current tool, bridging the gap between what was available and what was required. The diagram below will give a pictorial view of the benefits which the integration of the developed tool brought in.

Any offshore development team should have the exposure to work with different types of project management tools. In my current engagement, I have observed that almost all the team members have exposure to different project management tools, and when the available tools don’t fulfill
needs of the clients, customized tools redeveloped and integrated with the client’s current tool. This can put an end to the incompleteness of the existing tools.

Managing a Code Repository

Apart from monitoring and handling the offshore team, the major setback in offshore software development normally occurs when handling, delivering, or merging the developed code with the existing code.

The challenge arises when the security of the current code—which has already gone for production—has to be re-written for the sake of new features in the application, or when bugs in the existing application need fixing.

Before the new code is merged with the existing code, we have to ensure whether it works and whether proper QA at all levels of testing has been done.

The best process to overcome these challenges is to use the advanced code repository tools, process and methodologies.

A good repository tool and its workflow could help distributed teams to work in a very organized manner. One of our teams in EC Group uses Visual Studio Online with Git repositories—or GitHub—for all the code repository. This team follows a systematic process to merge their modified code using Git repository management very similar to what is mentioned here (Reference:nvie.com)

When developers access the code repository the first time, he clone’s it to create a local “develop” tracking branch for him as this is the default branch in the repository. He also creates his own local “master” tracking branch (based from origin\master) and a local tracking branch for any “release” branches out there (based from origin\release). He should have at least a local “develop” tracking branch, a local “master” tracking branch, and a local “release” branch. The “release” branch is always denoted by its version number, for example “release-15.1”. After a release goes to production he can delete his local “release-15.1” and wait for the next “release” branch to be created on the repository to create his next local “release” tracking branch. He will regularly keep these tracking branches in sync with the repository since he may have to create new branches as well as merge codes into branches he has created (to be on top of the conflicts if any).
A Workflow Step-by-Step:
1. When a developer is assigned a feature to work on (from Visual Studio Online or GitHub or any other project management tool) he creates a ‘branch off’ of his local “develop” tracking branch, name it “###-FeatureName” (### – will be the task number and FeatureName is a descriptive name for the feature developer is working on).

2. Developer will see the “###-FeatureName” branch listed as an unpublished branch, he will then publish this branch (to maintain safety of having his changes saved in the central repository as you commit them).

3. He will then make his changes, commit and push them as many times as needed to his “###-FeatureName” branch.

4. Once he is done with his feature he will execute a “pull request” so one of team member or senior team member here can review his changes.

5. Once accepted, one of senior team member will merge his changes into the “develop” branch, if any conflicts are encountered during the merge senior team member may ask that developer to synch his “develop” tracking branch and merge it with his “###-FeatureName” branch and resolve any conflicts encountered.

6. Once merged the developer will be informed and he can then unpublish (which deletes it from the central repository) and then delete his “###-FeatureName” branch (which removes it locally).

(For assigned bug fix the process is very similar except that developer may be creating his branch from the ”master” (for a hotfix) or the ”release” tracking branches instead.)

These insights are based upon my experience at EC Group and previous engagements. However, I will say that all these are merely general best practices; specific solutions are available if I understand your exact business needs and requirements. In the meantime, I hope these insights provide clarity for those considering partnering with an offshore vendor.

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