IT Outsourcing: Software Development – Vendor Evaluation

Summary:

Outsourcing software can save you money and can result in excellent results if done properly. On the other hand, if you are unlucky one caught with some unprofessional company or individuals, results can be far from satisfactory. In this white paper, we present you some helpful checklists how to select a vendors technical abilities and forge a mutual beneficial relationship with an outsourcing company.

Introduction

So you want to outsource software to India or any other destination. With so many choices of vendors big and small – you have to select some that can meet your needs. As mentioned in our other paper – "Outsourcing software Development – The Right Way" – selecting a proper vendor is very important to your project's success as well as your own sanity. Of course, no amount of paper diligence can replace the personal interaction with the development team and the executives of the company to know their culture and capabilities.

At Rapidsoft Systems, we believe that a knowledgeable and informed customer is the best customer. As an ethical and responsible professional company – it is our moral responsibility to be open and transparent to our customers so that we put their interests first. To help you in choosing a proper vendor, we have selected a technical capability check list that you can modify and adapt to your project. Note that technical capability analysis is only a starting point and a response to that will clarify core capabilities, you still have to build a relationship with vendor and find what I call a "cultural match.".

Technical Capability Analysis

Below we present certain questions that you can ask as part of your technical due diligence.

Process Management

General

What development process (ISO or CMMI) does the organization follow?
Does the vendor follow a formal SDLC?
What methodology is used?
Is the methodology applied to all development projects / streams?
What is the level of compliance with the SDLC methodology?
How is measured?
Does vendor have any certifications and level of certifications?

Requirements Gathering

What methodology / processes are used for requirements gathering?
What methodology is used for product change request process?
What systems and tools are used for requirements management?

Functional Design

What artifacts are produced during functional design stage?
What systems and tools are used for functional design?
What is the level of compliance across product line and legacy?
What methodologies are used to optimize user experience?

Development

What methodology is used for development process?
What systems and tools are used for development workflow management?
What is percentage of Unit Test code coverage?
What artifacts are produced during development stage?
What systems and tools are used for maintaining technology artifacts?
What methodologies are used to minimize Escape to QA ratio?
What are resource allocation ratios for R&D, sustenance and production support?
What is an approximate size of the application in terms of lines of code?
What is an approximate size of the application in terms of database tables?
What percentage of source code has sufficient documentation?

Quality Assurance

For each major release what is the scope of the following tests?

- Functional test
- Regression test
- Cross-browser testing
- Smoke test
- Performance test

- Load test
- Stress test
- Security test
- Usability test

For each minor release what is the scope of the following tests?

- Functional test
- Regression test
- Cross-browser testing
- Smoke test
- Performance test
- Load test
- Stress test
- Security test
- Usability test

What is a regression test coverage? How is it measured?
What percentage of regression test is automated?
What is duration / required effort for performing a full cycle of regression test?
What tools are used in QA operations?
What systems are used for QA workflow management?
What QA metrics are tracked and what are the current levels?

Build & Release

What is the frequency of major releases?
What is the frequency of minor releases?
What is the frequency of patch releases?
What tools are used in Build & Release operations?
What percentage of the build process is automated?
What percentage of the deployment process is automated?
What is duration / required effort for performing a full cycle of build and deploy process?
Is Continuous Integration in place?
Are there elements of the system maintained outside of the source control?

Project Management

Does the vendor utilize Project Management?
What methodology is used?
What system tools and tools are in place for Project Management?

Product Management

How does the vendor work with Product Management?
What system tools and tools are in place for Product Management?
How are the product and technology priorities defined?

Knowledge and Competency

What systems and tools are in place for knowledge management?
What systems and tools are in place for competency management?
What systems and tools are in place for employee evaluation?

System Architecture

General

What is the solution high-level architecture?
Is the architecture cohesive across all product lines?
What industry standards does the system support?
What application servers are used?
What RDBMSs are used?
What frameworks are used?
What main design patterns are used?
What are the main third party components utilized by the system?
What are the main items on the technology roadmap?
Are there any large technology initiative that change system fundamentals?

Reliability and Scalability

What is system scalability approach?
Is application clustering in place?
Is database clustering in place?
Is database federation in use?
Does application support safe failover?
What reliability and scalability metrics are tracked?
What is the methodology used for capacity control?
Are there any SLAs in place the cover reliability metrics?

Integration

What is the solution high-level architecture for integration with external systems?
Is the integration architecture cohesive across all product lines?
Does the system expose external APIs?
What industry standards does the system support?
What are major third party systems the application integrates with?
Integration with what systems is currently in production?

Environments

What minimum number of logical servers institutes a single system?
How many server instances institute a production system?
How many server instances institute a staging system?

How many server instances institute a QA system?
How is integration sandbox environment handled?

Hosting

What OS(s) are used in production?
Is OS and System patching automated?
Are all major components of the system properly licensed?
What level of redundancy is maintained for networking equipment in production environment?
What level of redundancy is maintained for system servers in production environment?
Does the organization utilize virtualization?
Does the organization have formal production change control?
What systems and tools are used for internal production control and monitoring?

Technical Support & System Monitoring

Internal Tech Support

How is technical support organized and managed?
What is a workflow for production defects from discovery to closure?
What systems and tools are in place for technical support workflow?

External Tech Support

How is technical support organized and managed?
What is a workflow for production defects from discovery to closure?
What systems and tools are in place for technical support workflow?
What are the key metrics for production defects?
What are the uptime commitments to the customer base?

Monitoring

What are the key metrics for the system uptime?
What is an average system uptime on an annual basis?
What is an average system uptime on a monthly basis?
How is uptime monitored?
What system monitoring tools and services are in place?
What percentage of system is covered by 24×7 monitoring?
Is integration with third party systems monitored on 24×7 basis?
What methods of notification are used for system failures?
How is the system utilization tracked, monitored and reported?

Resource Assessment

Staff

What is average staff turnover?
What is average staff tenure?
What is average staff experience (years)?
What is average key employee turnover?
What is average key employee tenure?
What is average key employee experience (years)?
Are there any key employees at risk?

Team Performance

What is the track record of the development team in meeting release dates and objectives?
How much challenge does the current plan pose for the technology team?
What is technology team's comfort factor and the planned margin for the current release?

Career Management

Does each team member have well defined goals?
Are those goals enforced by the organization through a thorough project management process?
What doe the vendor do for career management of its employees?
What doe the vendor do for continuing education of its employees?

Partnerships

What are the main partnerships essential to the vendor?
What services are provided by third parties?
How long the organization has been working with specific service provider?
Are there SLAs in place for key technology partners?

Contractors

What portion of the development is performed by subcontractors?
What subcontracting model(s) are used?
What roles are performed by contracting team members?
How long the organization has been working with current contracting partner?

Information Security

InfoSec Policy Framework

Is a formal Information Security and Privacy organizational structure in place?
Is a formal Information Security and Privacy policy framework in place?
How and when the Information Security and Privacy policy framework was developed?

Security Foundations

What are the main aspects of physical security currently in place?
What are the main aspects of network security currently in place?

What are the main aspects of server security currently in place?
What are the main aspects of data security currently in place?
What are the main aspects of personnel security currently in place?
What is the frequency of vulnerability scans?
What types of security audits are performed on a regular basis?
What is the frequency of security audits by a third party?

Disaster Recovery and Business Continuity

Back Up

What are a high-level backup architecture and methodology for the production system?
What are a high-level backup architecture and methodology for the corporate system?
What is the hardware used for data storage of the production system?

Disaster Recovery

Is a formal disaster recovery plan in place?
What is the frequency of disaster recovery plan testing?
What type of disaster recovery is in place for the production system?
What are target Time to Operation metrics for different disaster levels?
Has business disaster recovery been audited by a third party?
What type of SLAs are in place with products and services for production?

Business Continuity

Is a formal business continuity plan in place?
What is the frequency of business continuity plan testing?
Has business continuity plan been audited by a third party?

And, if you have chosen certain vendor based on your evaluation process, here are some tips on managing the offshore development process.

Managing Offshore Development Process

Success of a project when developed by an offshore provider is largely dependant on the way the project is remotely managed from the client's side. If you hope to make a project successful with very little input from your end as a customer, it is unlikely that the project will achieve success in the long term. The basic reason is very simple: you know your business requirements best. Software services companies working in another part of the world can only develop a solution based on the input provided by you.

Fairly large projects have a dedicated project manager who interacts with the offshore team and acts as a virtual bridge between the business and the software developers. If your project does not have dedicated personnel for it, there is no need to despair. You can follow some simple tips mentioned below and manage your project quite successfully.

1. **Set Short Term Goals:** The complete lifecycle of the software development process can be divided into smaller goals which can then be communicated to the team via email or by phone. It is a good idea to have a call with the entire team on Monday morning and run through the list of weekly goals that need to be achieved and then call again at the end of the week to evaluate if they have been achieved or not and what type of roadblocks were faced by them.

2. **Make Time Difference Your Friend:** Time difference is one of the factors in offshore software development projects which can become a pro or a con depending on how it is managed. It is imperative that a "common" time zone is mutually agreed on by you and the offshore vendor. This time should be used for communication and ironing out issues faced by the development team. Though it might take some time to get used to getting in to the office at 7AM, it pays good dividends in the long run.

3. **Catch Issues Early:** It is advisable that you keep a look out for early warning signals and warn the team up front rather than wait for things to correct themselves. Ninety percent of the time, the issue is not self-correcting but goes on to become a real pain to the entire team before additional effort is exerted to get it on track.

4. **Team works Succeeds With Team Spirit Only:** Encouragement and motivation are required even when you have hired a team with an offshore service provider. Motivating team members with an encouraging email along with occasional gifts sent to them on regional festivals creates camaraderie as well as doing wonders for the project. At the end of the day remember that developers are human beings and they do need an occasional pat on the back.

Although a number of onsite project managers feel that project management tools are advantageous to the flow of a project, the core driver in a successful project will always be good project and human resource management skills.

Conclusions

By following the above common sense approach to software outsourcing, you can truly benefit from the lower cost of offshore outsourcing. The main points are using only professionally run companies that demonstrate a level of professionalism and are willing to provide access to their engineering teams. Besides, your ability to openly communicate can make or break a project therefore having a local project manager for your project with whom you can deal with on daily or weekly basis is very important.

We hope the above article helps if you are looking to outsource any software development. And, if you would like to talk to us - you can visit us at http://www.rapidsoftsystems.com/. We promise to give you no obligation help whether you use us or not for your next software project.

For more information and specific questions, please contact us at:

Rapidsoft Systems, Inc,
 Mailing Address: 7 Diamond Court, Princeton Junction,
                New Jersey 08550, USA

(Princeton) New Jersey, (San Jose) California, Delhi/ Gurgaon (India), Mumbai (India), Chennai (India)

Web: www.rapidsoftsystems.com

Phones: **1-609-439 4775 / 1-609-439-9060 (US East Coast, NJ Office)**
          1-408-829-6284/ 1-408-890-2509 (US West Coast, San Jose Office)
           Fax: 1-831-855-9743

Email: info@rapidsoftsystems.com