Healthcare IT Outsourcing: A Proven Seven-Step Framework for Success
Contents

Why Outsource?................................................................................................................. ........3
What to Outsource?....................................................................................................................4
How to Choose Your Vendor Effectively......................................................................................4
Collaborating as One Team.........................................................................................................5
Creating an Effective Outsourcing Relationship.............................................................................5
Welcoming Onsite Presence........................................................................................................6
Focusing on Strategic Management............................................................................................4
Discovery and Implementation....................................................................................................7
Final Notes...................................................................................................................................9
Why Outsource?

There are many benefits to outsourcing and they can vary depending on each individual situation but some key benefits include:

- Ability to concentrate on core functions;
- Greater flexibility and ability to define the requisite service more readily;
- Higher quality products;
- Improved internal management disciplines resulting from the vendor’s expertise and experience;
- Faster time to market;
- Access to industry best practices and innovative ideas;
- Risk management improvements;
- Lower costs due to economies of scale.

So what are the main drivers for the decision to outsource the development of Electronic Healthcare Record (EHR), Revenue Cycle, or one of the multitude of other systems critical to today’s healthcare industry? How do you make the outsourcing relationship work for you to achieve the best possible results and add significant value to your healthcare business?

For healthcare companies supplying clinical software and electronic medical record software for hospitals and providers there are many challenges. Challenges that include the need to modernize existing technology and create new solutions to meet the comprehensive Meaningful Use certification criteria and timelines while adhering to HIPAA and ARRA security regulations. In order to win in this highly competitive market, it’s necessary to lead the current general and healthcare-specific technology trends such as:

- Mobile access enablement;
- Cloud based Software-as-a-Service business model;
- Innovation in big health data mining and analysis;
- Cross-application, cross-hospital, cross-geographical integration;
- Information exchange;
- New higher levels of Protected Health Information (PHI) security and privacy;
- Implementation of new data formats and protocols (Direct, XDS.b, CCDA, ICD-10, to name a few);
- Empowering patients with access to their health information;

Partnership with a trusted, reputable and efficient offshore IT company can be your answer in solving these challenges. The goal of this paper is to prepare your healthcare organization for such a partnership by sharing the experiences from many successful projects for US healthcare companies.
What to Outsource?

There is a multitude of mission-critical product lines and services that can be successfully outsourced. Outsourcing of business analysis, architecture, development, and quality control works well for:

- Public facing web applications such as MU required patient portals;
- Mobile applications for hospital staff and patients (secure messaging, administrative, and other);
- Applications and other systems for Cloud deployment;
- Parts of, or an entire web based, standalone, and mobile EHR system;
- Business Intelligence, big data, and data analytics solutions;
- Financial and administrative applications (billing, registration, claims validation, etc.);
- Direct Protocol, various “Integrating the Healthcare Enterprise” (IHE) standard based, and other integration solutions for healthcare.

How to Choose Your Vendor Effectively

“Do not outsource based on cost alone. Outsource to obtain a service or expertise that you cannot otherwise obtain.” – VP, HIT company.

Reliability is key. When considering an outsourced partner it makes sense to check their background and reputation in IT outsourcing in general and in healthcare IT in particular. References are best and can help narrow down your choices. A true partner will provide multiple services such as business analytics, architecture, development, user design and experience, management, onsite presence, and quality control.

Evaluate your options. Compare several vendors, ask them for proposals, and interview their senior resources. See which partner is the best fit with your team and organization.

Focus on technical expertise. An IT background in Healthcare is important to have for an offshore team, however, technology excellence is even more important. While your organization excels in the domain knowledge and business goals, your partner may have innovative ideas and help your organization to create the most successful products.

Low cost is not the main driver. It’s best not to select a partner based upon the lowest outsourcing price alone. Low rates can cost your company dearly in the long run if you do not pay attention to the three items mentioned above. The right partner provides technical excellence and the resources needed to get the job done.
Collaborating as One Team

As you engage an outsourcing partner for product design and development, prepare to work as one team. Address the items in the checklist below to guarantee a fast and smooth project ramp-up.

- Prepare the product vision presentation including the project scope and the high-level feature list.
- Think about non-functional and system-level requirements such as:
  - Deployment Model (SaaS, on-premise, etc.);
  - Expected performance characteristics (for instance, serving single request under 1 sec);
  - Desired level of scalability (expected size of user base, approximate number of concurrent requests to the system, etc.);
  - Amounts of data to serve or process;
  - Security requirements;
  - Availability rates/SLA (for instance, 99.9% uptime);
  - Other relevant attributes.
- Prepare training on domain knowledge (healthcare 101, HIPAA, product specific information) for developers. Your partner needs to understand your organization’s business goals.
- Talk to your IT department to understand how quickly they can provide access to the project resources required.
- Select and train a product manager to run the project from your organization.
- Prepare de-identified or false data for developers and QC to use without the threat of breaking PHI privacy rules.

Creating an Effective Outsourcing Relationship

There are two primary models of work with a development partner. The first is an engagement with the partner’s team to build a product and when it is complete, disengage. The other strives to establish a long-term relationship where both you and your partner work together as one team on future projects.

A long-term partnership is preferable to achieve the best product quality. This kind of relationship requires trust between both companies allowing more control over the development process, architecture, and other aspects of the project to your offshore partner. This in turn leads to creating a healthy spirit of collaboration and shared responsibility for the best results between the teams. The healthcare domain makes this approach especially valuable as healthcare products typically tend to live and evolve for many years and it is best for the partner that built them to be involved in their support and enhancements.
It is important to collaborate on the selection of a development process model. Most likely, it will be a form of Agile. The best partners have well established Agile development processes and experienced managers to enforce them. On the other hand, your organization will have its own standards. Balancing your company’s and your partner’s process models delivers the best result for both parties.

Engage your partner’s architect or a strong technical lead to define the strategic technical direction, architecture, and the technology stack. Your partner’s architect has the knowledge of the skillsets their developers possess and is in the best position to recommend the most appropriate technologies. These technologies, frameworks, and libraries should be validated by your architect for the alignment within your company’s standards.

Engaging your partner’s business analysts or requirement managers also proves extremely effective. They will play the role of a link between your organization’s high level business goals and detailed requirements the development team needs to get their job done. The benefit is a day-by-day well-structured requirement management process.

Once the decisions on the collaboration model, development process, etc., are made, both companies should share responsibility with the implementation and support.

Welcoming Onsite Presence

“The number one most important key to success with any offshore outsourcing arrangement is a skilled onshore lead, who understands both American business culture and the culture of the offshore team, and is capable of understanding and translating expectations, scope, requirements, urgency, priority, and obstacles to and from both onshore and offshore teams.”

– VP, US HIT company.

When a partnership approach is taken to outsourcing, much of the authority over the development process, solution architecture decisions, technology and other aspects critical for product development is handled by your outsourced partner. This allows your organization to focus on the strategic management of the outsourcing relationship:

• Define a clear project scope which does not change in any groundbreaking way.
• Create the release roadmap and hard milestones based on business priorities and predicted development throughput. If the timeframes look overambitious there are multiple ways to address this concern such as:
  - Negotiate minimum marketable features with other stakeholders as well as your clients, and postpone the features with lesser priorities.
- Expand your offshore partner's team with resources critical to remove the bottlenecks in the development.
- Consider software component buying vs. building to cut the time required for development of some of the parts of the system or services by licensing the mature implementations available in the market.
- Improve requirement management to reduce the amount of time the development team needs for requirement analysis. This approach has shown success especially in healthcare IT.
  • Measure and track the team’s performance by iterations and build the feature completion forecasts for the future.
  • If the feature development schedule starts slipping, address it immediately by getting into an open discussion of possible reasons with your partner.
  • Assign an architect or a technical leader within your organization in order to monitor and provide necessary assistance to the partner regarding any technical issues to address them in a timely manner. In healthcare IT, it is especially useful to monitor:
    - Authentication, authorization, access permission models implemented in a product;
    - Security of data in transit and at rest;
    - Auditability of user actions;
    - Correctness of healthcare specific protocol implementations (HL7 and others);
    - Health critical data consistency, integrity, and conflict resolution;
    - Error handling.

### Discovery and Implementation

On a high level, the entire process of project outsourcing can be split into three main phases:
- Early Engagement;
- Discovery Phase;
- Implementation/Support Phase.

The Early Engagement phase happens on the business level with high level technical discussions. It concludes with a proposal for the Discovery Phase, business agreement, and other non-technical outputs.

The Discovery Phase results are crucial to the project success. The discovery has the following goals:
- Define and understand the detailed project scope, feature list (esp. minimum marketable features). Draw the Epics corresponding to the functional requirements for the system.
• Determine non-functional requirements such as:
  - Deployment model (SaaS, on-premise, etc.);
  - Preferred stack of technologies;
  - Scalability characteristics (quantitative estimates for the user base, number of requests, number of tenants, etc.);
• Define the proposed high level system architecture on the level of components and their integration.
• Document important technical solutions.
• Describe development, QC, testing, staging, continuous integration environments and processes.
• Propose an optimal team structure.
• Propose the communication plan between the partners on all levels of collaboration.
• Coordinate and balance all of the above decisions between the partners.
• Start the project team staffing.

The Discovery Phase involves the senior project staff only:
• Your organization’s Product Manager/Budget Owner;
• Partner’s Architect working with the company’s architects;
• Partner’s Project Manager;
• Partner’s and/or onshore Business Analyst;
• Partner’s Quality Control Leader;
• Partner’s and/or onshore UX Designer.

We found from experience that the two first roles are mandatory in the Discovery Phase and the others can be mandatory or optional depending on the project nature, size, and other factors.

The most important outcomes of the Discovery Phase:
• High level project roadmap;
• Scope;
• Requirement specification;
• Architecture vision;
• Team staffing plan;
• Development process plan.

The Discovery Phase works best on site for a period of time ranging from one to several weeks. The result of the Discovery Phase is a ready-to-go plan for the Implementation Phase which starts with your partner’s team staffing and ramp-up and proceeds to the implementation of the final solution.
Final Notes

Outsourcing in Healthcare IT is not just viable, it is smart. It can empower your business with immense value shortening your time-to-market and helping to succeed in an ever-changing world of technology. It allows innovation in your development process, architecture, and technology stack. It moves old school Enterprise offerings to the Cloud and converts them into competitive SaaS solutions. It also creates convenient and effective Mobile versions of healthcare applications, etc.

Why are the topics covered in this paper important? They can help you build a successful outsourcing relationship to grow your healthcare business. They bring awareness of how outsourcing works and also clear and field-proven guidelines as a decision maker, implementer, or active participant in HIT outsourcing planning and successful execution. It explains why and what to outsource and provides detailed answers to 7 questions critical to the success of an outsourcing effort:

1. How to choose your strategic partner effectively;
2. How to prepare for an outsourcing project inside your organization;
3. Why a partnership model is the most successful;
4. How to support the entire process;
5. How to ensure effective communication with your outsourcing partner;
6. How to manage your outsourcing relationship strategically;
7. What is important to consider during the Discovery and Implementation phases.

This paper gives important insights into successful outsourcing drawn from the author's many years of personal and corporate field experience with emphasis on healthcare specific concerns. Use it as a blueprint for your organization’s next outsourcing engagement or as a glimpse into the fascinating area of driving innovation in healthcare IT with a powerful strategy of outsourcing through a client-vendor partnership.