

Growing and Sustaining an Offshore Scrum Engagement

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Abstract

From Scrum team formation and team building, to developing effective communication channels, the mechanics of Scrum do not translate easily for many Asian cultures. By taking a straightforward, sensible approach to implementing Scrum along with applying a well-known team building model, Kelley Blue Book (KBB) successfully created offshoring teams in China and India, in a few short months. KBB didn't just want to "add horsepower" to augment the onshore development teams, we wanted to create independent teams to help our product offerings expand.

*We will illustrate how and why we applied **The Five Dysfunctions of a Team** model by Patrick Lencioni to provide a foundation for growing and sustaining offshore teams several time zones away. We'll cover examples of how employing this model has improved our offshore engagements and overcome a number of challenges to improve the sustainable delivery of the Scrum teams.*

1. Introduction

Several years ago KBB made small steps with Scrum by forming a few teams. Last year we re-energized efforts and introduced Scrum to the entire organization. We invested in consulting, training, tools, and dedicated team members to ensure the growth and health of our Scrum practices. There are now fifteen Scrum teams across the Product Design and Development groups.

In 2007 KBB started offshoring programs with vendors in Beijing, China and Hyderabad, India to fill the resource gaps. The executive management team wanted to leverage an existing business relationship with a Chinese partner to help KBB's development capabilities. This partner runs a popular Chinese automotive Web site and we wanted to take advantage of their talent pool. With the venture into India, an existing consulting partner provided immediate opportunities to expand KBB's development capacity in short order. Neither of these offshore efforts would

be possible without the long term funding, time investment, and product support of the executive team.

Starting these off-shoring offices took time, planning, effort, and a lot of adjustments along the way. We approached these engagements slowly, with the intent to build on lessons learned at each stage, and apply the learnings wherever possible. Additionally, one of the adjustments we made in the later stages was to bring these off-shore teams more into the family by introducing them to our team building model based on the book, *The Five Dysfunctions of a Team* [1], by Patrick Lencioni.

The book was introduced by our CIO to help crystallize the newly formed technology division senior management team. As we worked with the model, the benefits and lessons were moved through the entire division by the senior management. In fact other non-technology departments were encouraged to borrow copies of the book to understand the basis of the technology division team building.

This paper covers the challenges and adjustments for the parallel (but different) paths to date with building and sustaining our offshore facilities.

2. The Offshore Teams

The engagements for both Beijing and Hyderabad were established in the first half of 2007. We used a common set of team requirements and infrastructure to establish connectivity quickly. The configuration management and development tools were comparable for both locations. We also started both offshore teams with counterpart onshore teams assigned. An onshore team consisted of membership by a Scrum Master, Business Analyst, Development Lead, Testing lead, and a Product Owner. Some team members were full-time and some part-time. They worked daily with the offshore teams. The offshore teams were comprised of an offshore Scrum Master, developers and testers.

The Beijing team was about ten members in size. We later added another development team in Beijing. For the Hyderabad office, the team size was five members. We followed the same growth model as the

Beijing team and now also have two teams in Hyderabad.

Our Hyderabad vendor has been a practitioner of Scrum for several years, so additional Scrum training was not necessary. The background in Scrum was helpful in getting the onshore and offshore teams working in the same terms quickly. The Beijing teams had not been exposed to Scrum before. Therefore our first site visit included a crash course in Scrum. And we have continued Scrum training with them throughout the remainder of the year.

One other difference to note between the Beijing team and the Hyderabad team is the level of English language skills. The Hyderabad team clearly had a higher level of English language capability. For the Beijing team, the language challenge, coupled with a difficulty in securing solid, consistent development management talent, made it hard to sustain technical management bandwidth. This made us take a slightly different approach with the Beijing team which is described later in this paper.

3. Starting Small

We started work with the Beijing team a few months before the Hyderabad team. This is where we first tried the approach of taking a smaller set of isolated stories for internal use Web site tools. This approach was to let the Beijing team learn how to work with KBB in a relatively safe environment. We began the offshoring with an on-site visit and presented the initial Scrum training to the Beijing team. The face-to-face meetings helped establish a direct relationship and started us off on “the right foot.” The expectations of code quality and technical approach were not perfect, but we were able to put the first internal Web site tools into production within months.

One of the main products assigned for the Hyderabad office was an ASP.net Web application for the automotive dealership market. When we initiated the Hyderabad team, we identified a new piece of functionality in the backlog that was isolated in the code base. It was a good low pressure candidate for onboarding the team. In a few sprints, the team delivered results into the production environment that met the product owner requests. The deliverables worked great, or at least it seemed that way. When the onshore development team reviewed the Hyderabad team work more closely some concerns were raised such as compliance with the coding standards and building new components (rather than re-using existing ones). Aligning BA and Product Owner with an offshore team had been enough to produce results that fulfilled business requests. However we needed to add more

developer support to prevent accrual of technical debt. The choice of a small and limited customer impact project had proven to be the right choice for this early stage. We learned, adjusted, and didn't incur any long term impact with the non-optimized code.

So we had modest successes on both offshoring fronts in a very short period of time. We had not yet found the need for the 5Ds training. The challenges in the next few months would lead us to that conclusion.

4. The Team Building Model

The Five Dysfunctions of a Team model is a simple team building model. Simple does not imply “easy to do”, only that the model is easy to understand. As with many team building models, whether from the military, John Wooden, or any of the dozens of authors on the subject, *trust* is a key component.



The Five Dysfunctions of a Team

The **First Dysfunction - Absence of Trust**. In Lencioni's book, he was not talking about "predictive trust" where, having known someone for a long time, one can predict what they are going to say or how they will react. He was referring to vulnerability-based trust or the ability to show a weakness without losing face, esteem, or strength. Can everyone on the team, including the Scrum Master, demonstrate vulnerability without the rest of the team running them over? How comfortable are you in saying to your teammates, “I need help” or “I don't know?”

The willingness to display vulnerability leads to having the team be able to engage in the **Second Dysfunction - Fear of Conflict**. Lencioni believes that productive, healthy conflict is necessary to build cohesive teams. A discussion where no one is holding back for fear of criticism or reprisals is healthy for any

team. Pent up conflicts can appear later in destructive form such as a personal attacks (ex. “Your code is awful and your shirt is ugly!”). When everything is openly discussed then, even if your idea is not the accepted direction, you’ve had an opportunity to be heard. This is an important aspect of Scrum that good self-organizing teams engage in everyday. The daily scrums, sprint planning sessions, sprint reviews, and most importantly the sprint retrospectives need to have open communications supporting healthy conflict if the team is to advance.

The **Third Dysfunction - Lack of Commitment**. Lencioni believes that there can be no commitment without healthy conflict. With everyone able to state their opinions, this forces clarity, and a Scrum Master can achieve closure on the topic with full commitment. Team members need to reach the point where they can all say, “I may not agree with your ideas, but I understand them and can support them.” If the team members remain uncommitted, it is unlikely the team will complete the sprint goals.

The **Fourth Dysfunction - Avoidance of Accountability**. Accountability refers to the ability of each team member to “call out” other team members if the commitments are in jeopardy. During the daily Scrums, are the team members at a point where they can look each other in the eyes and ask, “Are we going to complete all of the stories?”; “Do we have enough time to complete the testing to meet the story requirements?”

And finally the **Fifth Dysfunction - Inattention to the Results**. Have we put aside egos and career ambitions for the good of the team? Reaching the top of the pyramid is a difficult stage. The team may be reaching most of its goals, but if individual concerns override the needs of the team, it will be impossible to truly function as a T-E-A-M.

There are a number of team building exercises that Lencioni has detailed in an accompanying 5Ds field guide [2]. The following describes the team building activities each team has worked through based on the field guide. The activities were lead by the Scrum Master or the senior member of the team.

- All team members read the book and discussed the story together. Teams covered basic questions such as: Did you enjoy the book? What did you learn anything? Do you see these situations with your current team, or see them with prior teams. Where do you think we are as a team?
- The next activity involves all of the members sharing some personal information by answering a few questions. Where did you grow up? How many siblings do you have?

Share an event or time from you childhood when you faced a personal challenge or difficult situation and how did you work through it? It seems simple enough, but this exercise positions the member to be vulnerable to the group. The member experiences the team listening to him without ridicule or personal attack; and now the group has a better understanding of the individual.

- Some teams went on to another exercise where in rotation all team members share thoughts about a each member’s strengths and weaknesses. The member also addresses and acknowledges the group perceptions about him. This activity increases the likelihood that individuals will be open to admitting their strengths and weaknesses with each other, which in turn helps open the group communications and interactions.
- When new members join the team, the group repeats these activities. Team to team, this has been implemented to varying degrees.

5. Hyderabad – The Next Stage

The next stage was for these teams to work on larger Epics and bigger “chunks of work.” For the Hyderabad team, the retiring another of KBB’s CD products was next on the backlog. They were ready for the next challenge. With this large re-platforming development effort in front of us, we made a series of small adjustments in the areas of communications, configuration management, and story alignment. Now the stories the onshore teams took into the sprint backlogs were dependent on the offshore team sprint backlog. The success of all of the teams (onshore and offshore) in the entire product area was now interdependent.

Some of the adjustments we made to improve productivity:

- We combined the development environments to create a single environment that onshore and offshore teams had access to. An automated build and deploy process ensured that as one team was finishing their working day, they would leave a solid working development environment for the other team that was about to start their day.
- Along with additional technical support, weekly code review sessions were added to the schedule.

- We also followed the daily scrum with a “technical call”. This made it easy for team members to be available right after the scrum to dive deeper and to address technical questions and concerns more proactively.

To reinforce the product knowledge, practices and team building, we traveled to the offshore facilities and the vendor sent representatives to KBB periodically throughout the year. Initially we focused on knowledge transfers and process improvements. During this “Epic stage”, we realized the openness and exchange of information was still a little guarded, the relationship was still “client-vendor”. It was at this point that we introduced the teams to *The Five Dysfunctions of a Team* model. This has helped the team members gain the understanding that by taking on the 5Ds, we can maximize the time spent in every call and meeting. The daily scrum meetings improved, blocking items were identified more quickly, technical questions and the need for follow on discussions immediately after the daily call became the norm.

The retrospective meetings began to be more energized. The topics of “What Went Well?”, “What Didn’t Go Well”, “What Puzzles Us?”, are easily identified at the beginning of the meeting. The exchanges of information during the retrospectives have become lively discussions and debates. The Hyderabad team improvement is evident in the lower rate of defects, fewer issues raised at code reviews, the energy of the team engagement, and the fact that KBB is able to let the offshore team make more of the decisions.

After the “Epic stage”, there were a significant number of enhancements to work on. As a result of other company priorities, there was limited Business Analyst capacity to provide well written stories. This along with other challenging factors was known, but we decided to see how far the offshore team could stretch. Without the Business Analyst support at the level of previous sprints and limited details in the stories, the Hyderabad team “hit the wall”. Quality issues (such as product defects and non-compliance to standards) arose in the next two sprints. The good news is that with Scrum, the teams are set up to “fail fast” and be agile. Now that we knew the limits of the offshore team’s capabilities, it was time for another adjustment.

At the request of the onshore development manager, the Hyderabad Development Lead was placed in charge of running the offshore code reviews. Combined code reviews were taking place twice a week and the onshore team leads continued to participate in the daily scrum meetings. The lead was also asked to assume an architect role for some stories.

KBB wanted to let the offshore team rise to the occasion and move us another step closer to offshore team independence. With these changes, the teams’ velocity and morale was back on the rise.

6. Beijing – The Next Stage

We addressed the Beijing offshore development environment, configuration management, and tool set challenges in the same way as with the Hyderabad team. This was the “easy” part.

Our Beijing vendor had some challenges in keeping the technical leadership stable. China has a notoriously difficult environment to retain senior technical leaders and managers [3]. This competitive job environment has continued to handicap our Beijing teams to some degree. Without the technical management leadership in the Beijing offshoring, we “hit the wall” where the truly self-organizing team capabilities were needed. Some of the “green field stories” required independent design. Other stories required leadership and experience to address more complicated integration considerations and impacts. More technical onshore support was needed to prevent the accrual of technical debt.

The more independent thinking and execution has not quite reached the levels we have achieved with the Hyderabad team. To maximize the capabilities of the Beijing team, most of the stories are in the area of site optimization and UI compliance. These stories require less complex design work, while not relying too heavily on onshore technical resources.

Additionally we’ve had more frequent and longer exchange visits with the Beijing onshore and offshore team members. We also introduced *The Five Dysfunctions of a Team* model sooner than with the Hyderabad teams.

Some of the specific cultural challenges that we experienced were in the areas most needed to run a Scrum team. For example, the commonly found notion that “developers don’t test” only hurt the productivity and team work. During the Beijing team visits to KBB, the developers and testers joined the onshore Scrum teams. This is where they learned that everyone on the team really does test. To make the Beijing team visits to Irvine more effective, each visitor was set up with a mentor to get more focused help and become familiar with KBB’s teamwork expectations. It has taken some time, but everyone on the Beijing teams now tests.

Another challenge is with the less experienced offshore team members deferring to the team leads and managers. After the 5Ds training and with continual positive reinforcement, all of the team members feel more inclined to voice their opinion in the planning,

reviews, and retrospectives. The daily scrums are also better – the teams are closing the loop on communication much faster and identifying blocking items more readily. Use of the SharePoint discussion board has increased dramatically. This has resulted in minimizing the need for emails bouncing back and forth.

The 5Ds has helped overcome the hierarchical nature of the Beijing team that was demonstrated in the review meetings. In the beginning, the development leads would be the only ones to speak and demonstrate the stories. Now most of the team members participate freely and demonstrate the stories. As a result the reviews and retrospectives uncover different perspectives and team members have a shared ownership in the completion sprint deliverables.

We found that several modifications to how we work with the Beijing teams had to be applied:

- More frequent visits and longer stays (sometimes referred to as an “Ambassador model”) also helped to reinforce the technical standards, Scrum training, and the 5Ds model
- The need to document and exchange more information via the SharePoint site
- The need to ensure stories are very well written and clear
- KBB is more involved in the interviewing of potential offshore replacement and additional personnel. We try to make sure the replacement candidates have the potential to work with the 5Ds model
- The Product Backlog is prepared with more “Beijing team specific stories” – these tend to be less design intensive and enhancements to previous functional areas they have built
- The vendor has provided regular English language training to help the team members improve their English skills. We conduct all of our business meetings and calls in English

7. Team Building Discoveries

All of the technology team members have gone through 5Ds readings and exercises. It has not changed the team dynamics overnight, but it is a common baseline for all teams and has helped unify the division. Even though the Beijing and Hyderabad offices are staffed by external vendors, KBB’s success relies on their understanding of what is culturally important to KBB. This is why the offshore teams have also been included in this effort.

The team members in China and India had not been formally trained with team building models prior to working on KBB projects. This was new for the teams – it was an exciting and challenging time for them. However it was important that they overcame the tendency to always “want to please the client.” Not everything goes smoothly in a Scrum team. That is why it is critical to have open, effective daily scrums, planning sessions, reviews, and retrospectives. Every meeting, call, email, discussion board posting, and IM must be maximized. We don’t have time to dance around potential issues in a two-week sprint cycle.

In Asian cultures, the hierarchical nature of managers to team members, developers to testers, etc. can run counter to Scrum tenants. Managers expect that team members defer to the manager’s opinion. We’ve found that a lot of the developers don’t feel they need to test or create documentation; they are developers and have moved up from lower development ranks and testing positions. These types of beliefs are counter to good Scrum teamwork and that is why *The Five Dysfunctions of a Team* is even more important to the successful implementation of the Scrum framework in the offshore model.

Many of the team members, in both Beijing and Hyderabad, have stated their involvement with other prior offshoring engagements never allowed them to even speak with, much less meet with, the client teams directly. This unique experience has helped our offshore teams strive to make each sprint better than the last.

8. Final Thoughts

The efforts to establish two offshore facilities at the same time were ambitious goals for KBB. We approached the development of these teams with a straightforward, pragmatic “start small and build on it” approach. We expected successes and setbacks, but we also knew that we had the capability to adjust and improve.

We continue to build on the foundation put into place with *The Five Dysfunctions of a Team* training we’ve conducted with the offshore teams. Team members have progressed in trusting one another to engage in unfiltered, healthy conflict; and to commit to sprint completion every cycle. Without more open, effective scrum meetings, sprint planning sessions, and retrospectives, we would not have been able to identify and address the many challenges faced in a timely manner.

Building and maintaining effective teams is not an easy task. Commitment to the face-to-face meetings, the 5D’s model, and consistent reinforcement is critical

to overcoming the daily challenges of distributed software development.

9. References

[1] Lencioni, Patrick, *“The Five Dysfunctions of a Team”*, Wiley, San Francisco, CA, 2002

[2] Lencioni, Patrick, *“Overcoming The Five Dysfunctions of a Team – A Field Guide”*, Jossey-Bass, A Wiley Imprint, San Francisco, CA, 2005

[3] Nocera, Joe, “The New York Times”, New York, NY, April 19, 2008