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Decided to Start an Improvement to your Design Process, now what?

What are the next steps, once you have decided that you want to improve cycle time, quality, manufacturability, cost etc in your design process.

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Introduction

I don't believe anyone can honestly say that things are as good as they are ever going to get, when speaking of their design process. We are in a world of competitive pressures that would not let the status quo be the norm, and still survive. Today's organizations are forced to do more with less and that means continuous improvement must be in our blood. We must always be looking at ways to do things better than the next organization or we will surely wake up one day wondering what happened to our business.

This paper assumes that you have made a conscious decision to improve some particular aspect of your design process, or create your first real process, and you would like to gain some insight on how to be successful. This is considered by many as an improvement in methodology, and as such will cost money and/or delay real work while providing a fuzzy deliverable in the beginning. Your mission is to make it happen, even with all the anti-methodology rhetoric that will be in your face from certain team members and management.

“Oh great, not some more methodology garbage again to keep us from doing our jobs.” – You must get these types on your side or you will not succeed!

Ready? Let's go!

Let's get Better

Typical Improvement Expectations

From a management perspective, the list of items to improve contains just a few items. They have probably been directed to you in more of a question format such as:

- How come it takes so long?
- Why didn't it work on the first spin?
- How come it's not doing what the customer, product engineering, test or marketing thought it was going to do?

From the above questions you can boil them down to the following list of areas that design needs to improve in order to be perceived as getting better.

- Cycle time to production release
- Design Validation Methodologies
- Specification change management

Everyone Really does want to be Better

I have never found a case where the team did not want to improve. Most of the issues in getting certain negative types of individuals on the improvement bandwagon stem from a few key areas. They do not agree with the approach being taken, they believe the effort will not likely be resourced for success or they will end up being penalized because they did not complete what they were responsible for as their revenue generating task. i.e. a real project. You must address these concerns in order to get everyone on the design team feeling energized about making this work or the improvement effort is doomed.

The Improvement Project

What are you going to “Make Better”

At this point you most likely have an idea of what part of the design process you are going to focus on for improvement. There should be agreement from the majority of the team that there is room for improvement to be found in the area identified. With the effort loosely defined it's time to move into making things better. Upon complete formation of the team the area of improvement is likely to change or evolve into a different issue. This is OK and is the normal process as the team solidifies their plan.

The Team

In building the team you must have a champion who drives the team to their goals. Along with the champion you have the members, who must be energized and enthusiastic about making things better.

CHAMPION

The Champions role is absolutely critical to ensuring the success of your improvement effort. Selection of the correct person for this role should be given a significant amount of thought. Attributes for the person in this role must be as follows to ensure a successful outcome.

- Must be granted the time for complete focus on finding and fixing the issue.
- Must be a believer in the successful completion of the planned improvement. Carries the flag high!
- Must have a broad knowledge base to work with the team to identify and correct the process problem.
- Must have good facilitator skills.
(Communications, meetings, generates enthusiasm)

- Must possess a program management skill set.
- Must understand design. (Tools, flows, validation etc.)
- Must interface well with PE, PM, TE & Marketing.

If you can't fill this skill set internally it would be wise to solicit someone from outside the organization. Don't skimp on these skills!

MEMBER

At a minimum, everyone in design is part of the team. This includes the designers, layout and CAD/CAE roles. Also, depending on the magnitude of the change, you may need to include members(s) from TE, DE, PM and Marketing.

All design teams contain various personalities, passions and attitudes. Do not exclude anyone from the team because of any of these traits. You must deal positively with the trait or remove the individual from their position! A tall order indeed but nonetheless essential. I suspect that you will find that dealing with a negative trait and making it work for you is possible on most cases. If you don't have total participation in brainstorming, approval and implementation you have doomed the plan to a slow death.

What are the Goals, Schedule and Outputs

You must clearly identify the problem to be addressed and how you will be able to measure the improvement. You also need to identify the potential roadblocks to execution and know how you're going to deal with them should they arise. Typical roadblocks that come to mind are the return of previous projects because an issue has come up, other goals already established by the team member that must also be completed, an inadequate knowledge base to deal with the problem and lack of management commitment. There are others also, just ensure you have done due diligence in identifying them and have a course of action to rectify them.

Adding a Consultant to the Mix

One key item I would like to point out is that the output of this effort should not be assumed to be a bunch of documentation that will most likely gather dust. The existence of documentation

The existence of documentation is not an indication of a problem solved!

is absolutely not an indication of a problem solved. I view documentation as a means to an end, not the end itself. A change in the way the team works together is an indication of a problem solved. Be very specific about what the results of your improvement activities will be.

Research, research and research

Do not assume that everyone on the team has the knowledge that is needed to identify and fix the problem. You need to peer over the wall and get ideas from other sources and understand how they have dealt with similar issues. If the team already knew what to do to make things better they most likely would already be doing it. Now is the time to be open to new and different ways to give your team some fresh perspective.

Why Bring in a Consultant

There are multiple reasons why you may want to consider adding a consultant to your team mix. If you can't fill the champion role as I

have identified that is certainly one key indicator of the need to look external. Other reasons to outsource could be to add a broader perspective, add additional insight and bring a view of others experiences. Key attributes that you would expect from a consultant for a role on your team are as follows:

- Skills to identify and study problems and provide opportunities for improvement.
- Able to change the way people think and behave.
- Would be objective and immune to internal politics.
- Must have a design background.
- Has a background in design process improvement.
- Strong skills at facilitating change.
- Skills at facilitating the problem solving process.
- Can energize a team.
- Will remain 100% focused on the issue.
- Broad exposure to many methodologies from multiple sources.

Working with a Consultant

To be affective in working with a consultant view them in a way you might view working with a therapist. You have a problem and in order to fix the problem you need to talk it through to find the root cause. Don't be shy about sharing all the baggage and dirty laundry. In that open sharing will come exposure of the root issue to be solved. If you hold back, the root cause will be delayed or never found at all. A good consultant has seen it all before so there's no reason to feel like a failure in exposing something that you believe you should have already handled. Set the ego aside.

Engaging a Consultant

The process takes some time. You need to feel good about what your getting from the consultant and the consultant needs to feel good about ensuring he understands the problem to be dealt with. Both parties are working to establish a trust in each other. You do not owe the consultant anything except your time during this discovery phase so don't worry about the clock running and feel free about contacting him with questions and ideas. Below, I have outlined the typical process I work through in a potential engagement with a client:

- Initial Contact with Design Manager/Director.
- Initial Face-to-Face discussion.
- Information gathering to understand potential area's of improvement, from our perspective.
- Second face to face to review target area's for improvement.
- Initial proposal delivered.
- Follow up review of proposal.
- Final Proposal prepared and delivered.
- Engagement decision finalized
- If agreed to move forward start date is mutually agreed upon.

As you can see there are several steps prior to engaging with a consultant. At any point in the process you are free to decide the value to continue discussions or not and disengage. I would encourage you to stay involved until you have reached the proposal phase, since that's the point where both parties will understand what's involved to fix the problem.

Summary

In summary this paper took you through the steps necessary to implement a methodology improvement for your design process. The key take away you should have from this is the importance of establishing a champion/leader with the attributes that will ensure a win for the change you want to see.

I would also encourage you to explore the possibility of adding a design process consultant to your team when embarking on your improvement process. It costs you nothing to explore the option of doing so and they should be especially valuable as a champion for your effort.

I hope you have found the information in them useful and it has provided you perspective about me and what I have to offer your design organizations. The specific services that I can offer you are directly related to the content of this particular paper. Please feel free to contact about any questions you may have.