Change does not "Happen"

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Abstract

Adopting the CMMI requires the organization to thoroughly plan the change when improving processes. Organizations that fail to do this are doomed to fail in their efforts. This short paper describes some tools and strategies to make change happen, based on known models.

Introduction

While the Capability Maturity Model Integration (CMMI®) has initiated a flurry of change, many organizations have struggled with its implementation because they have failed to recognize that resistance to change, and not immediate adoption of change, is the norm. This is not a fault of the model: 70% of the efforts to perform "business reengineering" have failed[1] as have 57% of the efforts to introduce CASE tools[2] because they have neglected the human factor in change. William Bridges, in "Managing Transitions; Making the Most of Change" points out that every change is not only a beginning, but an end. What hinders adoption is that during the transition the old and the new coexist and people have a hard time "letting go" of the past. This conflict leads to loss of productivity.
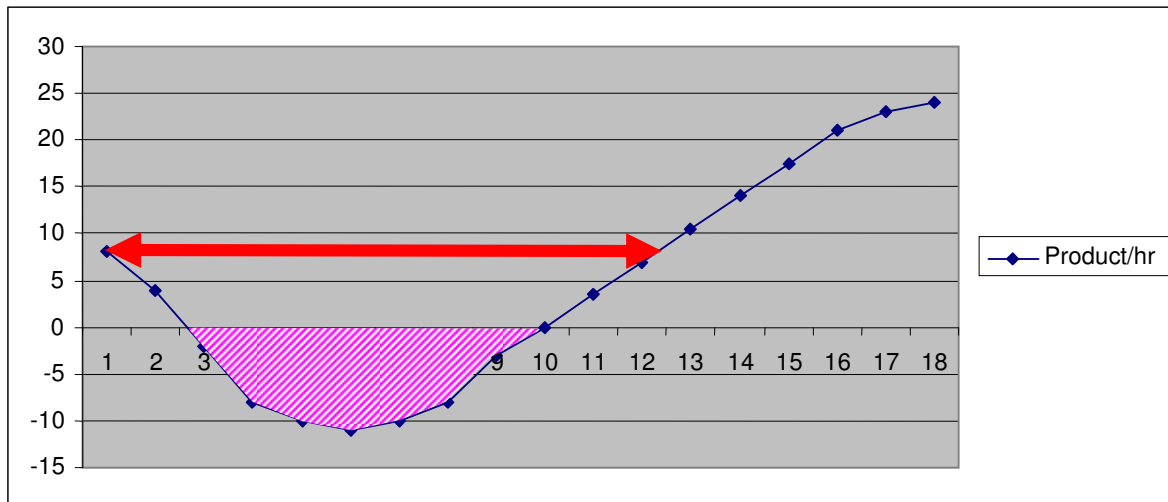

Figure 1: Loss of Productivity During the Transition

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1 Hammer, M. The Wall Street Journal, November 26, 1996

2 Fichman, R. and Kemerer, C. F., "The Illusory Diffusion of Innovation: An Examination of Assimilation Gaps", Information Systems Research, v. 10, n. 3, pp. 255-275, September 1999

If the transition period is too long or too expensive, the change is abandoned and the improvement fails. The secret lies in how to bound and manage the transition. We will describe a set of tools that will help the change agent (or the similar but more powerful role of change facilitator[3]) to better conduct a transition, but before entering into that subject we will list several truths we all fail to recognize at least once in our careers.

Change is systemic; change addresses the system. Even if it is useful to implement "low hanging fruit" changes, sticking to such a policy without a framework of reference (of the change itself) can lead to a dead-end. When conducting a change process, we should recognize interdependent variables and avoid sub-optimizing when interdependencies are evident. We can implement stop-gap changes if needed, be it because we need to show that we are making progress, or because the organization is suffering through a bad process, but we need to switch to a systemic change after the initial economies are realized.

Resistance Happens. Whether change is perceived as positive or negative, it is always disruptive, and resistance inevitably arises as an answer to it. It comes from the fact that the old is known and the future is not. Resistance has many different faces. It can be passive: for example, the people at one very large car manufacturer are so used to quality fads that their attitude to the CMMI initially was disinterested – this too shall pass; there will be another change coming along soon. In many other places we see stalling tactics, excuses – too much real work to do, as if process improvement were not in their job description. Sometimes, resistance can be active, confrontational, and even subversive. Managers who are not skilled in managing transitions tend to dismiss these symptoms as the ranting of a few. They operate under the assumption that if you build the "<u>right</u>" processes the people will use them[4]. In turn, when it does not happen, these change agents are mortified and blame the rest of the world. Resistance cannot be ignored – it must be managed. A change agent must understand concerns and issues, and be able to explain the change from the affected groups' points of view. Only by walking a mile in their shoes we can start to understand the pressure they feel.

Here are some botched approaches to installing a new process: A three-day training in the CMMI, or, worse still, a half-day overview. Writing a bunch of processes and immediately decreeing that every process is now the standard. Doing the right thing by changing the reward system, but placing all your hopes on it, trusting that the benefits will become evident with time and participants will embrace the change. Failing to see that change is a source of pain and focusing exclusively in "selling" the benefits to the participants, and then making the change mandatory under punishment of losing the job. All of these fail to recognize the complex nature of change in one or more ways.

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[3] See change agent and change facilitator definitions below

[4] This makes matter worse, since it produces a huge pressure for an "ultimate" process, slowing things down and creating monster process documents.

Considering Roles in the Change

We have already starting using terms like change agent, champion, change facilitator and change participant. Before moving on with our paper, we want to define what we mean by these.

A change facilitator is a person that leads the process of change. He or she is aware of the risks of the transition and helps the organization to prepare and execute a plan to make the change happen. Initial change efforts in an organization require skill-building of change agents, and that job befalls to change facilitators, either directly or indirectly. Facilitators do not make the change happen; they prepare the organization to effect and adopt the change itself. Hence, facilitation can be either internal or external. The Process Engineering Group (PEG) is a natural place for the change facilitator to work. In organizations that have not yet created a PEG, the project management office or the quality assurance group might be the right locus for the activity. In large organizations this role is sometimes performed by a corporate group. In smaller organizations with few internal skills the role is usually performed by an external consultant with the appropriate experience.

Every change requires a sponsor. A sponsor is someone within the organization that authorizes, legitimizes, and leads the change. To be effective, we expect a good sponsor to clearly express the need for change (sells the problem, not the solution), clearly describe what the desired outcome is, reinforce the right behaviors, reward and recognize those that achieve the desired final state, and build the cascading commitment of reinforcing sponsors.

A reinforcing sponsor is someone who works for the sponsor but is not the sponsor herself. Still, reinforcing sponsors share many characteristics with the sponsor. They make the change legitimate, by aligning it with their division goals, thereby maintaining the chain of reinforcement for the change. For example, they would require their subordinates to align their goals with the change, and help build their commitment to it by explaining and interpreting the benefits to them. They are the ones that monitor the progress of change, directly or through their own reinforcing subordinates. During crisis, frequent during transitions, they are expected to defend the change. They should reward early adopters and publicly recognize the participants that achieve the change goals.

Reinforcing sponsors are crucial to the success of the transition. It is they who establish and communicate the transition strategy; create the infrastructure that supports it; show commitment to the change; participate in setting the newly aligned goals; remove obstacles and provide the participants with the resources to succeed. They have to revise and change the reward system to align them with the goals of the transition.

While sponsors provide direction and leadership for the change, champions provide rationale and morale. They are responsible for the emotional and intellectual aspects of the change. Champions often precede the change inception, but not always. Whether they precede it or not, they still are responsible for bringing to the participants the clear vision

of the change. They identify the why and the what for of the proposed change. They support the case of change in front of the organization. They work with their peers in obtaining commitment to change. They provide leadership and skills to support change adoption for everyone. They effectively lead change agents in teams.

Change agents are responsible for planning and implementing the change project. While facilitators are mentors and counselors, it is the change agents who define, implement and move forward the change project. They identify the required resources and request them from sponsors. They work with participants to implement the change and build support structures to enable it. They work as a team to monitor and control the change project. Change agents should recognize resistance and work hard to make it surface earlier rather than later, so that they can work with those resisting the change. They should explain the change and listen to grievances with an open mind and be able to change their discourse or even their plans to make the change succeed.

The perfect change agent is a great communicator who works well with people at all levels of the organization, has the trust of organizational "sneezers"[5] and can effectively work well with, and upwardly delegate to, managers. S/he also has a history of success, especially in dealing with organizational change, and is familiar with the change itself as well as the organizational culture, to the point of understanding all the unwritten rules. A great change agent appreciates and relishes personal differences and works with them, not against them. He or she is a natural leader.

Participants are the targets of change (in the past they were called change targets; the name itself succumbed after being targeted by political correctness). They are the people from the organization that have to change their behavior in order to make the change happen. Participants must, of course, participate. They should effectively contribute to the definition of the change itself (buy-in), set limits to the change (comfort), suggest areas of change (lead), get involved in the change implementation, receive training to be able to perform the new processes, feed back information about the change to change agents, and support the change.

We will now describe two mental models that will help understand the challenges of transitions. These are the adoption curve, described by Everett M. Rogers in his book "Diffusion of Innovations"[6], and the other is the commitment sequence, first defined by Conner and Patterson in their paper "Building Commitment to Organizational Change"[7].

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[5] Seth Godin in hs book "Unleashing the Ideavirus" explains in great detail how ideaviruses have been launched by companies such as Napster, Blue Mountain Arts, GeoCities, and Hotmail. He also describes "sneezers" as he influential people who spread them.

[6] "Diffusion of Innovations", Everett M. Rogers, Fourth Edition, The Free Press, New York, 1995.

[7] "Building Commitment to Organizational Change", Conner, Daryl R.; Patterson, Robert W. Training and Development Journal, v36 n4 p18-26,28-30 Apr 1982.

Adopter Categorization on the Basis of Innovativeness

The initial studies of adoption curves date back to the 1920's, where a study found that the rate of adoption of hybrid seed corn by farmers followed an S-shaped curve. A generalization much in use since is to adopt the bell curve (Gauss normal distribution) as the curve that represents adoption rates. Within that curve, the researchers fit five categories of "adopters". These are: Innovators, who are motivated by change in itself; Early Adopters, also called "visionaries", who adopt when they can match the proposed change to a vision of a solution to a known problem; Early Majority, who adopt when there are visible gains to be made from changing; Late Majority, who adopt when they fear they are being left behind; and Laggards, whose point of reference is the past, and either adopt when there is no other possibility (for example, the elder people that swore never to use anything but pen and paper to write letters) or do not adopt at all.[8]
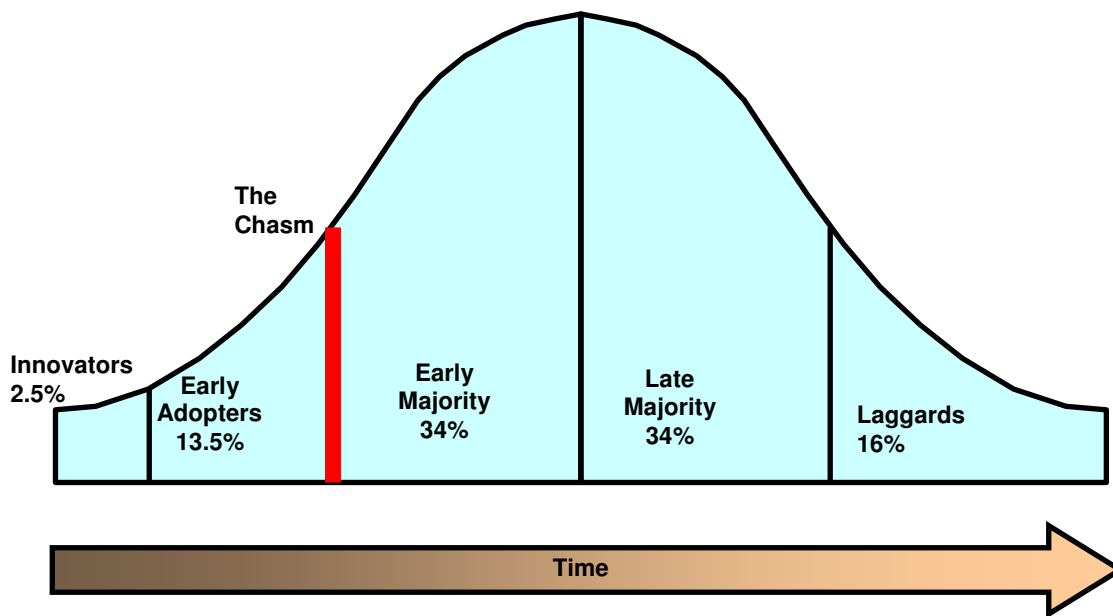

Figure 2: Adopter Categorization on the Basis of Innovativeness

"Crossing the Chasm", a marketing book by Geoffrey A. Moore focuses on the specifics of marketing high tech products. It uses the diffusion of innovations theory from Everett Rogers, but argues that there is a chasm between the early adopters of the product (the technology enthusiasts and visionaries) and the early majority (the pragmatists), based on the assumption that visionaries and pragmatists have very different expectations. Moore attempts to explore those differences and builds from them to suggest techniques to

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[8] One should be careful in categorizing people permanently in any category. A person could be in any one category with regard to some technologies and any other with respect to others. Culture plays an important role in which category one is with respect to any given change. See Everett Rogers book for examples.

successfully cross the "chasm", including choosing a target market, understanding the whole product concept, positioning the product, building a marketing strategy, choosing the most appropriate distribution channel and pricing. What is of interest to us is that change facilitators need to recognize that adoption is progressive, not immediate, and that different adopters categories require different strategies.

We apply this model in combination with the aforementioned Steps in Building Commitment. According to Conner and Patterson, the individuals in an organization pass through different stages in their adoption of change. They define three phases: the Preparation Phase, where the change is advertised and publicized in order to reach an Acceptance Phase, which is reached when the "disposition threshold" is crossed. The Acceptance phase should be planned to take people to the "commitment threshold", which crosses them over to the Commitment Phase. At each step it is possible to lose commitment from the individual.
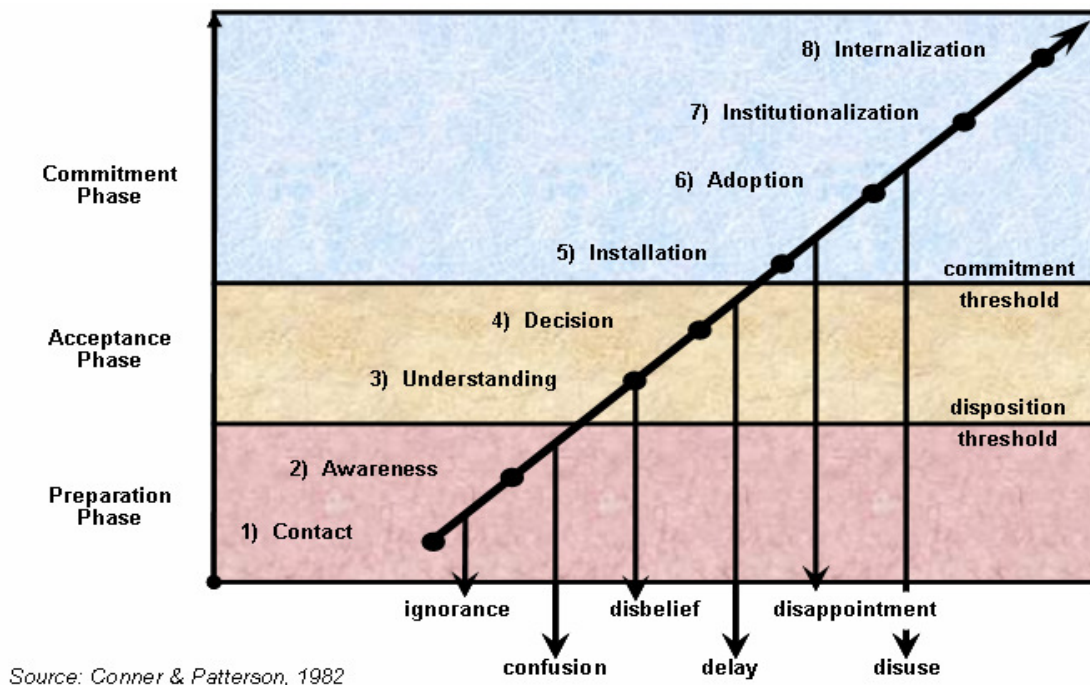

Figure 3: Steps In Building Commitment

Combining the two models has proven very powerful for us. All but visionaries and innovators have trouble crossing the disposition threshold. The same groups cross the commitment thresholds all by themselves.

Innovators are not good at staying with a change. They usually lack the patience to see the results through and end up abandoning the change and looking for the "next big thing". We see innovators as very fast decision makers that are fascinated by newness. They make very poor change agents, since they cannot understand the constant questioning of the change that the other groups have, and are not even suited for

champions because of their fickleness. They can also mire the change facilitators into believing that the change, as proposed, has been well received and is fully understood.
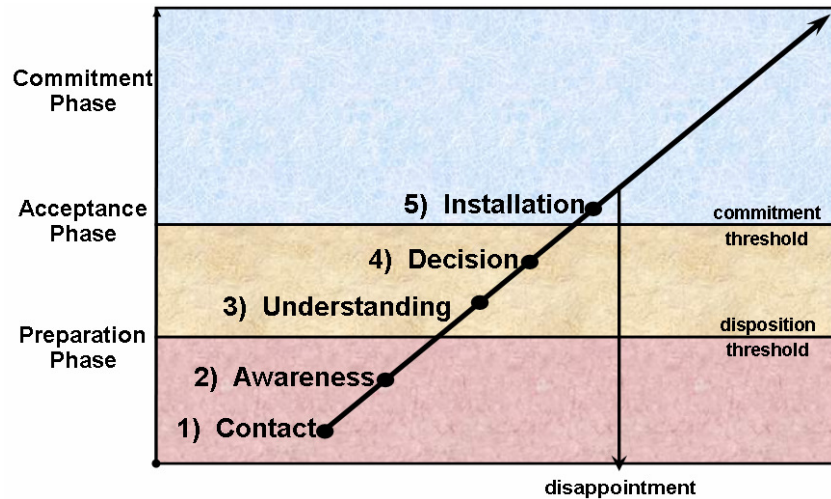

Figure 4: Innovators Going Through Changes

Early Adopters are excellent in that they give change a "proof of concept", because they are seeing how the change affects their vision, and go through the steps of the model very rapidly. Once they understand the change, they are done exploring and will make the change happen.
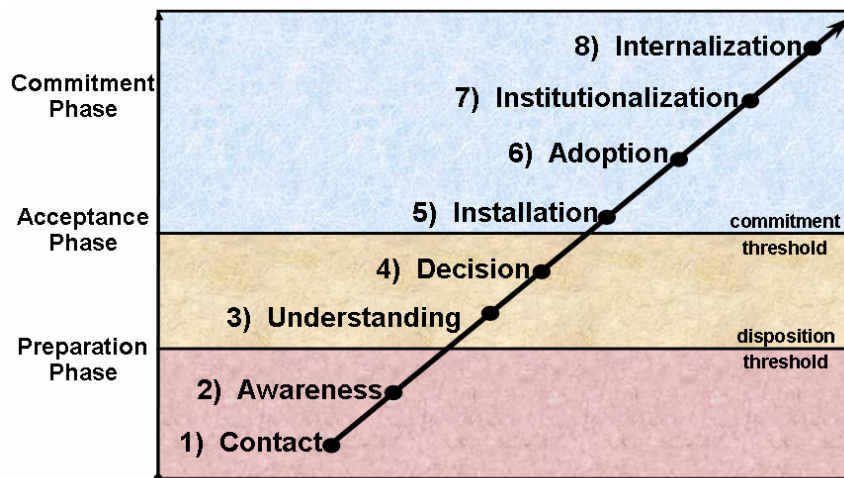

Figure 5: Early Adopters Going Through Changes

However, Early Adopters sometimes have trouble explaining their vision to others[9]. Hence, they could be of little use as champions or change agents, unless they understand

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[9] Often Visionaries come from NT groups in the Myers-Briggs Personality Types, and are good at reaching conclusions without building strong arguments. People from other personality types that require a detailed explanation find them very flimsy, while they find the other types frustrating.

that other types have different needs. Facilitators need to be able to build these skills with them if they want to use their significant insights and opinion forming trends and traits.

Putting it All Together

According to Moore you need to start by choosing a target market. It becomes clear from the earlier discussions that you will be dealing first with visionaries. With visionaries, you cannot, and therefore should not, sell the solution. It is not the technical aspects that seduce the visionary, but the vision that solves the problem. Hence, sell the vision. If the connection to the problem is not obvious, raise awareness of the problem. Visionaries will express resistance as doubts about the applicability of the solution in general, not in particular. If they find difficulty in understanding how the change will bring closure to the problem, it will surface as resistance, so deal with it. Listen to grievances and be prepared to adjust the vision and to learn from their experience. They are your first customers and you need them to understand the whole product concept, the second step in Moore's proposal to cross the chasm.

Carrying through the marketing analogy from Moore's book, you are now prepared to build "a marketing strategy" and "positioning the product." Once you have an audience for the proposed change, involve them in the activities that will ease the transition. Plan a pilot. Figure out which project will need the change the most and whose team, or at the least whose team leader, will have the right attitude. Include training and mentoring in the skills required by the change. One special word about training: Adult training is not what you got in College. If you try to stick to the traditional class environment to develop the needed skills you will have a very low return on the investment. Instead, consider using the project environment itself to perform training. Adult training ideally is just in time, on the job and just enough. Train people on the job at hand, so that motivation to learn is high. Train people on their jobs when they need to do the job, so that the required skills are learned and applied immediately. Retention is typically higher if you do this. Do not fill their heads with useless information. Tell them as much as they need to understand why and what for, but focus on the how so that they become confident that they can execute to the new processes.

Make sure that the project will have the required resources to be successful. In other words, rig your pilot for success. Remember, there is no substitute for success. In order for the pilot to be successful, closely monitor its progress and control risks with alacrity. To ensure success, put in place many early warning systems. Never let a project fail, rescue it from itself. Do whatever it takes to make people winners. If the pilot fails, the change is severely compromised. But even if the pilot succeeds, this is no guarantee that you are going to be successful. You are still in need for a strategy to cross the chasm.

Beach-Head Strategy for Crossing the Chasm

If we continue with the marketing analogy, the previous step has built an internal understanding of the product that we are positioning as process improvement. You need to choose the most appropriate "distribution channel" and "pricing" of your product. This is to say, how to roll out the change to whole organization. You may need to use the experience gained in the pilot to re-arrange our vision. Remember that you are no longer dealing with visionaries, so that selling them the vision is not an option. You need to sell them solid, concrete gains. You should start by re-packaging the process assets to make the effort easy to digest, so that the "entry price" is not too high. For example, make templates simpler, make the process easier to follow, and, in general, tailor process assets as needed.

Select the entry project into the early majority from a list of possible candidates. Do your homework! Due diligence in this step pays off big, while not considering risks can cost you dearly. If at all possible, assemble a special team for this second pilot. Only use visionaries if they can communicate with pragmatists, and add external resources when necessary. If a subject matter expert is needed that can only be incorporated from outside the company, do so. Homogenize the team's knowledge before jumping into the fray using stand-up training, but expect to use mentoring during the project to make the skills easy to acquire and relevant to the job. In other words, once again gear the pilot for success. Failure is unacceptable; you will not recover from it. Guaranteeing success is not cheating, this is not a game you are playing; this is managing the transition!

Propagating the Change

Let's imagine that you have successfully avoided all the pitfalls and that the last pilot done with (and for) the early majority has been a success. This has simply established a beach-head in the Early Majority, but the war is far from won! As soon as it has happened, communicate the pilot's success at all levels and as loud as the culture will tolerate. Once again, sell the problem first. Let people understand that there is a problem (pain) and that you have found a solution (rescue). When questioned, use the early majority pilot as exemplar, but do not lie about the costs, be open and frank about tailoring to other projects. Live up to your promises. Modify/evolve improvement project teams, processes and training assets as needed.

You are now ready to recruit the Early Majority. Your best tool continues to be mentoring, as the easiest form to implement Agile Training. By this we mean Just In Time (done when the job requires the skill, and focused on the people that need that skill immediately); On The Job (practical, performed as part of the job, where exercises are replaced by the real work at hand, and that, when training is over, can show real work has been performed); and Just Enough (only the minimal theoretical background to make the task at hand comprehensible, but no extra-content) training. Include mentoring in the plans of every project to which you roll out the new processes. Using the knowledge gained in every step of the project, adjust the assets as needed and continuously improve from your lessons learned. Some point in this roll-out you will find that things start getting easier and that many more teams are asking about the changes than before. When

about fifty percent of all projects are working with the change, it is time to tackle the next level.

Crossing the Gap to Late Majority

Continuous improvement is just that, continuous. The fact that a significant number of people have been successful at using an asset does not imply that roll-out is complete. You need to continue making adjustments to the process assets as needed. But once the threshold of people that have adopted the change reaches the magical 50%, you can move on to enforcement. Promulgate the procedures, processes, templates and applicable assets in the PAL as the (only) accepted standard, and align rewards and punishments accordingly. The new processes have proven their worth (granted that the game was rigged, but this is not about fair play in a competition, but change adoption) and to hold back change is tantamount to sedition, an unacceptable behavior by all accounts. Put process goals in management objectives. Continue supporting individual projects until adoption is complete with extra resources for mentoring in the adequate skills. Set a goal of 85% of all projects committed to the change. Remember, compliance is NOT commitment, but do not expect that all projects will be equally committed all of the time.

Conclusions

Successful change requires change management, it rarely happens spontaneously. It is the transition that requires to be planned. A fundamental part of the strategy is to clearly identify the roles involved and the people to fulfill these roles for the current change. Sponsors are needed and reinforcing, cascading sponsorship is a must. This must be followed by clearly established responsibilities and the definition of the skills needed. Use pilots carefully and continuously improve the assets. It is better to start with a usable but not-yet-perfect process earlier and to evolve that, than to slow down trials to establish the perfect process asset from the outset. Use only a pinch of stand-up training and barrels of mentoring. Use the project environment to develop the processes and the skills. Make sure that the training caters to your different internal markets needs; use training judiciously: train as little, but as often, as possible.

Austin, February 2002