A CONCEPTUAL FRAMEWORK FOR TECHNOLOGY-ENABLED ORGANIZATIONAL TRANSFORMATION

By

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1. Recognition of need

Let's begin with a need, a perception by a person or group of people, that a change is needed. Something is missing or not as good as it could be. We need to start a change; a process needs to take place to take us from where we are, to where we want to be.

A. Influences, either internal or external, have created the perception that a change is required.
   
   I. Internal
      
      a. Processes are inefficient
      
      b. Worker retention problems and poor moral due to frustrating processes, practices, bureaucracies
      
      c. Current systems are not meeting needs of the organization. These needs can either be technology needs, operator needs, or management needs.
      
      d. Previous changes quickly revert back to status quo
   
   II. External
      
      a. Customer complaints
      
      b. Market changes, lost share
      
      c. Competition
      
      d. Product obsolescence
      
      e. New and emerging markets
      
      f. Change in technology makes current process obsolete. If you maintain the current systems, your competition will soon be more efficient with new technology.

2. Begin the Transformation Process (Covert 1996)
A. Forming a powerful guiding coalition (Kotter 1995)

Given the need for a change, a person or group decides to explore the possibility of changing. The initial group that perceives the need for change decides to start the process. This driver group is usually small and is rarely representative of all of the cultures and personnel affected by the proposed change. Assemble a group with enough power to lead the change effort comprised of the executive sponsor and the process owners. Now is the time to assign roles to people. (Kotter 1995)

Hint: Executive support ranked 2nd in success factors (Standish 1996)

Hint: The technology culture should be represented by the CIO. The CIO has the authority to define and approve infrastructure constraints and changes.

Red flag: Choosing A CIO who is technology-oriented rather than user-oriented (DWI)

Red flag: Starting with the wrong sponsorship chain (DWI)

Red flag: No initial involvement of business managers (Paul 1997)

Hint: Encourage the group to work together as a team (Kotter 1995)

Hint: Commit 20% to 50% of the chief executive’s time to the project. The time commitment may begin at 20% and grow to 50% during the implementation stage. (Covert 1996)

Red flag: The CEO set budgets and deadlines before project team is established (Paul 1997)

B. Summary assessment the current state of the organization by guiding coalition (Covert 1996)

The guiding coalition makes a cursory assessment of the organization’s environment. Is a full transformation needed? Perhaps the change required is needed only a small scale. The scope of the change is assessed.

Hint: now is the time to stop if the scope is small.
Hint: if the decision to continue is made by the guiding coalition, the stakeholders should now be included to assess their needs and desires.

C. Assess the need for change with the stakeholders

All possible stakeholders should now be included and should include representatives from all 3 cultures. The engineers who will be charged with the technology, the operators who will be affected, and management who will sponsor the change effort should all be included.

Hint: now is the time to pause if the stakeholders are not on board. Either bring them on board or scrap the effort.

D. Illustrate the desired state, create a vision

When all of the stakeholders are committed, they will need the opportunity to create a shared vision of the new organization. This can be accomplished by a simple exercise of everyone sharing their desires for the new organization, and the group sifting through all of them until a core set of action statements is distilled and agreed upon.

Hint: time to get real, expose those warts.

Support: (Senge 1994)

A shared vision is not an idea. It is, rather, a force in people's hearts, a force of impressive power. At the simplest level, it is the answer to the question, “what do we want to create?”

A vision is truly shared when you and I have a similar picture and are committed to one another having it. We are connected, bound together by a common aspiration.

Red flag: one person's vision does not a shared vision make. The CEO cannot create a shared vision. A vision is not pushed down or coerced, but created.

Support: Creating a vision to help direct the change effort and develop strategies for achieving that vision (Kotter 1995)
Red flag: Possible attitudes toward a vision. (commitment, enrollment, genuine compliance, formal compliance, grudging compliance, noncompliance, apathy) (Senge 1994, pp219)

Hint: Set an aggressive target. The target must span the entire business unit to ensure sufficient breadth. (Covert 1996)

Hint: Include the goal of becoming a learning organization in the vision. Use words like adaptable, flexible, willing to change, willing to learn, willing to “go deep.”

E. Create a communications campaign for change (Covert 1996)

Communication and involvement is critical to retaining the commitment of the stakeholders. If they become disengaged, their ownership decreases. The process becomes someone else’s processes.

Hint: Establish a sense of urgency (Kotter 1995)

Support: Communicate the vision; use every vehicle possible to communicate the new vision and strategies beyond the guiding coalition and key stakeholders. (Kotter 1995)

Support: Incomplete requirements and lack of user involvement accounted for 25% of failure factors (Standish 1996)

Red flag: Overlook communications. Companies always underestimate the level of communication that must occur during the implementation stage. It helps to assign a top-level manager to develop and implement an ongoing communication program. (Covert 1996)

3. Create the team (Covert 1996)

A. Establish the roles for performing the transformation (Covert 1996)

The roles that are vital to a successful organizational transformation are: an executive sponsor, the process owners, the reengineering team, the steering committee, and a reengineering specialist.
The executive sponsor has the authority to allocate the resources needed to the effort. The sponsor should have the leadership ability to get people to listen, and the motivational ability to get people to follow. Without executive support and commitment, the effort may not have the strength to overcome the day-to-day trials that will face it.

The process owners are responsible for the transformation. They have the ownership and responsibility of the processes that are being transformed. They have the authority to allow changes, to allocate resources, and they know the processes that are being changed. The process owners and the executive sponsor comprise the guiding coalition. The guiding coalition has the responsibility and authority necessary to the success of the effort. The operators will do most of the task work during the implementation. The technology culture should be represented in the process owner group. The CIO should hold ultimate responsibility for the technical success of the solutions proposed.

Hint: Teach new behaviors by the example of the guiding coalition (Kotter 1995)

The transformation team will diagnose the existing processes, oversee the redesign and implementation, and should be credible in their specific areas of responsibility. The team will consist of “experts” from the business units being transformed. They need to know the strengths and weaknesses of the current organization, and be integral to the design of the desired future state. The team will need representatives from the technical as well as the operator communities.

The steering committee in larger efforts can help organize many smaller process changes and offer a larger, standardized, systems approach to the process as a whole.

A reengineering specialist that can help guide the company with expertise in transformations can be very helpful. They can bring an industry approach... the knowledge of what can work
and what cannot work. They also can help arbitrate conflicts since it is difficult to be a
prophet in one's own land.

Hint: Assign an additional senior executive or hire a reengineering expert to be responsible for
the implementation. This person should spend 50% or more of his or her time on the project.
(Covert 1996)

B. Choose the personnel who will reengineer and assign to roles (Covert 1996)

Now is the time to assess current skills and capabilities of workforce. Try to choose key
players with knowledge and experience.

Red flag: An overburdened project manager or process owners. The process owners will need
to allocate a significant portion of their time to the effort. (Paul 1997)

Hint: Empower others to act, get rid of obstacles to change (Kotter 1995)

Red flag: No internal presence on project team when external consultants are involved (Paul
1997)

Support: User involvement ranked 1st in success factors (Standish 1996)

Hint: empower others to act - the organization needs to change systems or structures that
seriously undermine the vision (Kotter 1995)

Hint: empower others to act - encourage risk taking and nontraditional ideas, activities, and
actions (Kotter 1995)

Red flag: No routine meetings of guiding coalition including Executive sponsor and project
manager to keep executive support alive (Paul 1997)

Hint: All 3 cultures must be represented; exec, tech, and operator (schein)
Hint: consider an outside perspective and a technologist perspective will spark “out of the box” thinking. Perspectives that are outside of the processes are creative and beyond the current restrictions. (Covert 1996)

Hint: Short term wins: Recognize and reward employees involved in the improvements (Kotter 1995)

Red flag: Assign average performers. Companies often shy away from assigning their top performers to the transformation project for fear of impacting business unit performance during the redesign. This is a critical misjudgment. (Covert 1996)

4. Identify business process reengineering opportunities (Covert 1996)

A. Discover and describe the existing and new values and culture required

This should be an exercise with the entire team. They should re-evaluate their current values and culture, and ascertain what values and culture will be required to implement the new processes. If the previous culture was one of tradition and slow decision making, the new system of quick information and quick customer turn-around would be in conflict. If the culture was one of a dictatorship and a strong leader, then employee empowerment to help customers would be in conflict.

B. Identify the core/ high-level processes (Covert 1996)

Here we look at our organization horizontally in terms of processes, not vertical functions. The goal is to identify process boundaries to help set the scope for the processes to be reengineered. The organization can be looked at in terms of services or product areas that the customer might see. Think in terms of converting inputs to outputs.

C. Recognize potential change enablers (Covert 1996)
These enables might be thought of in three categories: the use of information, the use of information technology, and human factors. For example, managers may want information is a certain format, generated by an automated system, that may change the financial statements for a group of employees, and consequently, change their bonus structure.

Questions to ask are: what new information is available or needed? Are there new technologies that will change the way customers and our businesses communicate? What new ways of forming teams and compensation systems have proven effective in improving business processes like ours?

D. Gather performance metrics within and outside our industry (Covert 1996)

How does our existing systems compare with our and other industries? Is the need for this transformation driven by outside forces? If so, understand and document them. Look around and see how others are succeeding and failing. Learn from their successes and failures.

Hint: Urgency: Examine the market and competitive realities are a vital step (Kotter 1995)

Hint: Conduct a comprehensive review of customer needs, economic leverage points, and market trends. (Covert 1996)

E. Select and prioritize the processes that should be reengineered (Covert 1996)

Typically, organizations use three criteria: dysfunction - which processes are most ineffective, importance - which processes have the greatest impact on ourselves and our customers, and feasibility - which processes will create the greatest return for the least effort... "low hanging fruit."

Based on these criteria, prioritize the business processes that will have the greatest impact in relation to our need for a change.

Red flag: Many major systems projects underway simultaneously (Paul 1997)
F. Evaluate pre-existing business strategies  (Covert 1996)

What strategies are in existence? Do they focus on driving a process? If not, we will have to define a new process strategy to reflect our new strategic goals.

G. Consult with customers for their desires  (Covert 1996)

Our process users are an important source of information. We need to understand their desires and what they actually need from these processes.

Hint: now is the time to perform interviews to learn about the culture of the organization. Probe to learn how people do things, and why. What brought these processes into place initially? Why have they persevered? Do people want them changed? Why haven't they changed them already? What is holding them back? Discover what constitutes effective action; both espoused and in use. What will constitute effective action in the new system?

H. Determine organization's actual needs  (Covert 1996)

Take the time to document and understand our actual needs. What are we trying to accomplish? Do we have an understanding of our goals in terms of our vision. The vision is broad, the needs are specific.

I. Formulate new process performance objectives  (Covert 1996)

Our objectives can be determined by combining customer needs with competitor benchmarks and “best of industry” practices.

Red flag: No pre-launch objectives or metrics  (Paul 1997)

J. Establish key process characteristics and potential barriers to implementation (Covert 1996)

We need to establish key process performance measures, key process characteristics, critical success factors, and barriers to implementation. How will we know when we are successful? How will we know when we have failed and need to pull the plug?
Now is the time to map the problems, expose assumptions, and show what is behind the behaviors that persevere. Show the “programming” behind people’s behaviors.

Support: Identifying and discussing crises, potential crises, or major opportunities (Kotter 1995)

Hint: know when to pull the plug.

Hint: Gather all parties view about barriers to implementation.

Red flag: Settle for the status quo. Most companies have difficulty thinking outside their own skill level, organizational structures, or system constraints. Help from an outside expert can be crucial here. Moreover, companies that do come up with innovative approaches find them watered down by political infighting during the implementation stage. (Covert 1996)

5. Understand the Existing Process (Covert 1996)

A. Understand why the current steps are performed (Covert 1996)

An assessment of the organization's culture is important to uncover the hidden assumptions that lead to the way that we do things the way we do. “We've always done it that way” is not a good answer. Question assumptions, processes, understand why we do things this way.

Hint: Interviews are effective.

B. Document the current processes (Covert 1996)

Document the processes that are integral to the processes identified earlier as the processes that are key to the transformation. Documenting will force an understanding and may even require that more questions and a deeper understanding is required. Documentation is important when designing the migration strategy. An important part of creating a journey is where to start the journey from.
Hint: The documentation should include personnel, organizational structures, information requirements, how technology is used, process inputs (such as task times, data requirements, resources, demand, etc), and process outputs (such as data outputs, cost, throughput, cycle time, bottlenecks, etc).

C. If technology is part of existing process, understand how it is used (Covert 1996)

Assess how technology is currently used. What is the organization's view of technology? Is it merely a necessary evil, or is it an integral part of the business strategy? Does the current technology inhibit some processes? Why is technology used for some tasks and not for others? How effective are the current interfaces? Is technology available to everyone? Why or why not?

D. Understand how information is currently used (Covert 1996)

Is there duplicate information? Is the required information accessible, and in a usable format, to the process stakeholders? Why or why not? Is there a corporate view of information? Or is information viewed as a proprietary resource for each business unit?

E. Understand the current organizational structure (Covert 1996)

Why does the current structure exist? Is it a legacy of outdated processes?

F. Compare current process with the new objectives (Covert 1996)

Looking at the current state, can it support the new objectives? Can our current processes support our vision. If not, it is time to reengineer our processes. If they can, skip the reengineering effort and work toward the vision itself. (more)

6. Create the new process (Covert 1996)

A. Re-evaluate the team
After understanding the current processes, be sure the team still represents the process owner and stakeholders. If not, go back to step 3.

B. Question current operating assumptions and brainstorm

Implement changes proposed in interviews.

Look at our current system documentation and understand the operating assumptions. Can we change these assumptions? Are they still valid? What happens to them in light of new ideas and processes? Are they in the way? Is there resistance to change that is not understood?

During the brainstorming, consider the following:

a. Evaluate the impact of new technologies

b. Evaluate the impact of the external environment

c. Consider the perspectives of stakeholders

   • Include factors that make the environment unsafe or threatening. Consider how to create change in the definition of effective action.

   • Learn how to create a learning environment.

   d. (Hammer 1993): combining several jobs are into one, workers make decisions, the steps in a process are performed in a natural order, processes have multiple versions, work is performed where it makes the most sense, checks and controls are reduced, reconciliation is minimized, a case manager provides a single point of contact, hybrid centralized/decentralized operations are prevalent.

Hint: Centralized/decentralized operations encourage the formation of cross-functional workgroups. Processes should be decentralized, but standards and a common infrastructure should be organization wide.

Hint: Consider many alternatives
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Hint: Use customer value as the focal point (Covert 1996)

Hint: Set criteria for project termination. When all else fails, cut and run. (Paul 1997)

Red flag: Engaging in politically-naive behavior. (e.g. saying “this will help managers make better decisions”)  (DWI)

7. Blueprint the new system (Covert 1996)

A. Define the new flow of work  (Covert 1996)

Document the new work flow. Detailed plans that will show how to create the system as it was intended. The details necessary for implementation should be included.

B. Model the new process steps and new information requirements (Covert 1996)

Many models can be used. Storyboarding (Crane 1998) the new processes will allow the team to step through the new processes. The end result is an accurate representation of the new steps and outcomes. Missed steps or process might be discovered when stepping through in this level of detail.

C. Document the new organizational structure  (Covert 1996)

A new org chart that shows the process of change. The process owners, team members, managers and facilitators will be detailed.

D. Describe the new technology specifications  (Covert 1996)

The technologists should have a clear understanding of the technology requirements. They should start to document specifications and perhaps create a low-tech prototype for the new system.

E. Record the new personnel management systems; bonuses, evaluation  (Covert 1996)
If the old compensation system was based on teams that were the legacy of the outdate “silos,” then a new compensation system will need to be designed. Bonuses, sick leave, non-billable time (overhead)... all need to be evaluated.

8. Plan the transformation (Covert 1996)

A. Develop a migration strategy (Covert 1996)

The first step in implementing a transformation the organization is to develop a plan for migrating to the new processes. Migration strategies include: a plunge into the new process, a phased approach, a pilot project, or creating an entirely new business unit. An important point to consider is the integration of the new process with other processes. If only one process is reengineered, then it must interact with the other existing processes. If multiple processes are slated for reengineering, then the new process must not only integrate with existing processes, but also with the newly reengineered processes that will come on line in the near future; therefore, the implementation of the new process must be flexible enough to be easily modified later on.

Transforming information systems to support the new process may involve retooling the hardware, software, and information needs for the new process. One approach to this transition could be a controlled introduction. The method would ensure that each part of the system is operational for a segment of the business before going on to the next module to implement. Although the risk may be low while the bugs in the new system are ironed out, it may be difficult to integrate the hybrid old/ new systems in a step-wise manner. The flash cut approach is where the entire system is developed in parallel to the existing system, and a complete transition occurs all at once. This may put the organization at a higher risk if the systems do not function properly at first, but it is the more common approach due to the “all-
The Implementation of the Business Integration System

The "or-nothing" nature of Business Process Reengineering. Most reengineered processes function in an entirely different manner than existing processes; thus, a step-wise introduction would, most likely, not be fully functional until all steps were introduced anyway. An important reason to justify the flash cut approach is that the reengineering benefits can be realized much sooner than with a controlled introduction.

Hint: Conduct a comprehensive pilot of the new design. The pilot should test the design's overall impact, as well as the implementation process, while at the same time building enthusiasm for full implementation.

Hint: Do an incremental pilot project to determine if you can realize the projected benefit. (Paul 1997)

Red flag: Setting expectations that you cannot meet and frustrating executives at the moment of truth (DWI)

Support: A pilot can be used as a learning experience.

B. Create a migration action plan (Covert 1996)

The new process will probably require a new organization, different in structure, skills, and culture. The new management structure should result in the control paradigm being changed to the facilitation paradigm. The new process team structure should result in the managed paradigm being changed to the empowered paradigm. Once the new structures are established, we should map tasks in the process to functional skill levels, and ultimately to workers.

C. Develop metrics for measuring performance during implementation (Covert 1996)

Here we define and document measures for success. How will we know when we are successful?
Red flag: Measure only the plan. Though most companies invest a lot of resources in estimating the effects of the redesign on cost, quality, and time before implementation, they rarely follow through with a comprehensive measurement system that can track the new process’s performance as it is actually being rolled out. (Covert 1996)

D. Assess the impacted operators (this should build on earlier efforts. Here is too late, do it earlier.)

Transforming the workforce will require an array of activities. It begins with an assessment of the current skills or capabilities of the workforce to include soft skills, operational skills, and technical skills. This inventory may require personal evaluations (including areas of interest), peer evaluations, and supervisor evaluations. Feedback should be provided to all personnel to ensure accuracy of current skills and interests for all staff. Armed with the new process skill requirements and a current skills inventory, the gaps can be assessed. Is the new process feasible with the current skill set? Which are the areas to focus on to enhance personnel skills to meet the requirements of the new process? An education curriculum needs to be established to get all employees educated on the business and, most important, on how their jobs relate to the customer.

E. Develop a training curriculum (Covert 1996)

An educational pyramid is an effective way to transfer knowledge of team building, self-mastery, and subject matter knowledge. Systems training is essential to understanding the use of new information systems and how to take advantage of their capabilities. Process training may be needed to help employees think beyond a linear process to a more holistic interdependent process. Facilitation training for management is critical to develop their abilities to listen, allow mistakes, handle disputes among process experts, and transition to a
coach/facilitator role. For example, education may be necessary for Total Quality Management (TQM), or other models if these mechanisms are designed into the new processes. Finally, a structured on-the-job training (OJT) program is instrumental in providing continuity of the new process during periods of personnel turnover or attrition.

F. Educate management on facilitation skills (Covert 1996)

9. Initiate the transformation

Now we are ready to embark on our journey. We have communicated, strategized, analyzed, reengineered, and blueprinted our ideas for the new process. This is where all of the previous efforts are combined into an actual business system -- something we can see and feel and use to enable our organization to meet the market demands of today and tomorrow.

A. Implement in an iterative fashion (Covert 1996)
   
   Look for short term milestones, achievable deliverables, and implement in phases to show short term gains

B. Establish the new organizational structures according to migration strategy

C. Map new tasks and skill requirements to staff (Covert 1996)

D. Re-allocate workforce (Covert 1996)

E. Implement process improvement mechanisms

   As with any dramatic change, people will have personal difficulties, to varying degrees, with the paradigm shift that has taken place. Almost all new process implementations are surrounded by confusion, frustration, and sometimes panic. The best transition strategy is one that minimizes, as much as possible, the interference caused to the overall environment. Attempts should be made to keep the new process chaos to a controlled level, to maintain the focus of the reengineering team and the faith of the employees.
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**Hint:** Short term wins: Planning for visible performance improvements  (Kotter 1995)

**Hint:** Short term wins: Creating those improvements  (Kotter 1995)

F. Educate non-stakeholders about the new process  (Covert 1996)

G. Educate the staff about new processes according to training developed earlier

H. Train operators on new system

10. Maintain the transformation

Maintaining the change is an ongoing process. If the status quo does not change, the organization will revert back to the previous state. Careful assessment needs to be performed periodically to ascertain the permanency of the change. If the behaviors are not moving toward the agreed upon goal, further interventions will required.

Following are some hints about consolidating the improvements and institutionalizing new approaches into day to day life, the status quo.

A. **Hint:** Use increased credibility to change systems, structures, and policies that don’t fit the vision  (Kotter 1995)

B. **Hint:** Hire, promote, and develop employees who can implement the vision  (Kotter 1995)

C. **Hint:** Reinvigorate the process with new projects, themes, and change agents  (Kotter 1995)

D. **Hint:** Articulate the connections between the new behaviors and corporate success  (Kotter 1995)

E. **Hint:** Develop the means to ensure leadership development and succession  (Kotter 1995)

F. **Red flag:** Believing that once the system up and running, your problems are finished  (DWI)