

# A Model to Guide Organizational Adaptation

Stephen E. Cross

*Georgia Institute of Technology, 225 North Avenue, Atlanta, Georgia 30332, USA, cross@gatech.edu*

## Abstract

Successful organizations anticipate the need to change. They do so with minimal effort and a focus on improving outcomes. This paper describes a systems-based approach by which organizations can become more adaptive and thus more agile, proactive, and innovative. The key idea is the alignment of vision and strategy, culture and beliefs, processes, plans, people, and desired outcomes. Such organizations have senior leadership that consistently and effectively communicate the vision and strategy (i.e., why the organization does what it does). The organization has a shared set of beliefs about why the vision and strategy are important. The organizational culture embraces innovative thought rather than rejecting such behavior. The resultant model is a codification of best practices based on a thorough review of the innovation, strategic management, leadership, and adaptive organization literature. The model was applied successfully in the transformation of a large, applied research organization.

## Keywords

Transformation, adaptation, alignment, change, culture, innovation, process improvement

## 1 Introduction

The work reported in this paper describes a model for organizational adaptation and the logical steps an organization can take to overcome cultural barriers to change. The work is informed both by a literature review and applied research. The review includes the innovation, strategic management, leadership, change management, and adaptive organization literature as well as lessons learned from successful adaptive organizations. Based on this work, a maturity model is proposed to support continuous improvement towards greater organizational adaptation.

As discussed in [Lints 2010], there are many definitions of adaptability. For the purpose of this paper, the Institute of Electrical and Electronics Engineers (IEEE) definition - *the ability of a device or system to self-adjust to better meet the varying conditions it faces or the ability for a device or system to be adjusted to make it more suitable for a specific use or situation* - will be used. Thus, adaptation is the ability of an organization to modify its behaviors and actions in order to cope with change in its environment. Some organizations anticipate the need to adapt, perhaps to changing market conditions or a new opportunity. The ability to change, and to change quickly, often seems a positive attribute of its culture. However, many organizations recognize the need to adapt only when it is too late (e.g., to sustain market share due to a competitor's new or enhanced offering). The ability to change is normally resisted throughout the organization unless it is motivated by significant loss of business or even survival. The premise in this paper is that organizations can become more adaptive through a continuous process improvement approach. The model-based approach is described by which organizations become more adaptive and thus more agile, proactive, and innovative. The key idea is the alignment of vision and strategy, culture and beliefs, processes, plans, people, and desired outcomes.

First, the literature related to organizational adaptation is reviewed to illustrate the attributes of successful adaptive organizations. A model of organization adaptation is then presented

followed by the case study. The methods used to lead this change are fully described, followed by actionable guidance.

## **2 Relation to Existing Work**

A systems approach for enterprise transformation is presented in [Rouse 2005]. An enterprise is defined as a goal-directed organization of resources – human, information, financial, and physical – and activities involving operational objectives. Within a systems context, Rouse describes enterprise transformation as fundamental changes in terms of relationships to markets, products, service offerings, market perceptions, and/or cost pressures. A framework based on scope, means, and ends is suggested as an approach for pursuing transformation. In a later work [Rouse, 2011]; case studies of successful enterprise transformations are described that illustrate the importance of customer focus and outcomes, operational efficiency, culture, and execution. The role of innovation and leadership are highlighted throughout this work.

[Christenson 1997] describes the differences between sustained and disruptive innovation. Sustained innovation involves the continuous improvement of product offerings in response to measured or perceived market need. Such changes are usually incremental and risk missing the “next big thing.” Disruptive innovation involves game changing technology, product concepts, processes, and/or business models that engender a fundamental change. Disruptive innovations are usually not initially commercially viable and require a willingness to take risk and mature concepts prior to market introduction. But successful disruptive innovations continually influence market demand. A successful organization applies best practices, as appropriate, for both sustained and disruptive innovation. Best practices have been codified as described in [HBR Handbook 2005] and involve the willingness to experiment, to establish venues outside product business units, and to create a culture conducive to prudent risk taking. But implementing an innovative idea often requires change. Organizations resistant to change are unable to achieve the benefit of the innovation.

Perhaps somewhat motivated by the proverbial “burning platform,” change often happens only when organizations are under threat. It is harder to change a culture when there is a perception of “things going well.” For example, [Katzenback, Steffen, and Kronley, 2012] describes the difficulties a series of CEOs had at a Fortune 500 company in achieving such change. [Kotter 1996], and more recently [Herold and Fedor, 2008], have published change management frameworks to guide adaptation when times are good. In particular, the work reported in this paper builds on the Herold and Fedor framework by taking a systems view of the entire organization. The role of leadership in instituting change and in aligning culture with strategy is a key element in organizational adaptation.

With respect to leadership, many have described the traits necessary to lead change within organizations. [Collins and Hansen, 2011], [Heiftiz, Linsky, and Grashow, 2009], [Kotter 1996], [Kouzes and Posner, 2002]. Common themes for successful leadership stress effective and consistent communication and a commitment to the organization’s success over personal ego or self-gain. Successful leaders recognize the need for change and provide a balance between innovation and discipline in order to take prudent risks [Collins and Hansen, 2011]. They anticipate rather than react, and they invest time internally to ensure that all understand how change is necessary to the success of the organization. They align strategy with an operational

focus. Further, [Collins and Porter, 1996] discuss the role of core ideology and vision as integral and foundational to any successful organization.

A key observation is the importance of alignment across leadership, strategy, vision, culture, processes, and outcomes. Through a review of successful adaptive organizations, a model that underscores the role of alignment was developed and is described in the next section followed by an illustrative application. Actionable guidance to lead transformation efforts to become more adaptive is presented in the form of a capability maturity model. Related work along these lines is presented in [Nightingale and Mize, 2002] and more recently in [Müller-Prothmann and Stein, 2011], yet neither focus on the key role of alignment. [Lavansky and Robinsky, 1997] proposed a model that seeks to achieve vertical and horizontal alignment where vertical alignment connects strategy and people and horizontal alignment connects processes and customer. The work reported here builds on this model by reflecting lessons learned over the past decade and by introducing a model-based continuous improvement approach.

### **3 Research Approach**

The research reported here describes the development of a model of an adaptive organization and its use in several large organizations (e.g., Fortune 500 companies, government organizations, a university) in order to become more adaptive. A review of the popular business literature and interviews with industry leaders identifies attributes common to adaptive commercial organizations. A model that results from this work, and is consistent with previous literature survey, is shown at Figure 1. Fundamental is the alignment of vision, strategy, culture and beliefs, processes and plans, people, and outcomes for products and services provided by the commercial organization in a marketplace. One case study is reported in this work.

It was observed repeatedly that organizations with such alignment possess a shared sense of urgency to produce relevant outcomes throughout the organization. The employees within adaptive organizations understand how their work contributes to outcomes, share a sense of pride and responsibility for those outcomes, know how they are held accountable for those outcomes, know that their management supports their efforts to achieve the outcomes, and know that time is essential. That is, the entire organization is focused on timely outcomes that make a difference for their primary stakeholders. In such organizations, those who say “no” without authority or accountability are not tolerated, while innovative, self-initiated change leading to product and/or process improvement is highly valued. These organizations are also grounded in a culture with core values that encourage continuous examination of how work is done and how to improve. Such organizations have senior leadership that consistently and effectively communicate the vision and strategy (e.g., why the organization does what it does) and a culture that is congruent (e.g., shared set of beliefs about what elements of the vision and strategy are important). With this alignment of strategy, vision, and beliefs, it becomes possible for personnel within the organization – at all levels – to develop processes, plans, products, and services that are focused on achieving shared outcomes in a timely manner.

The attributes derived from successful adaptive organizations are listed below.

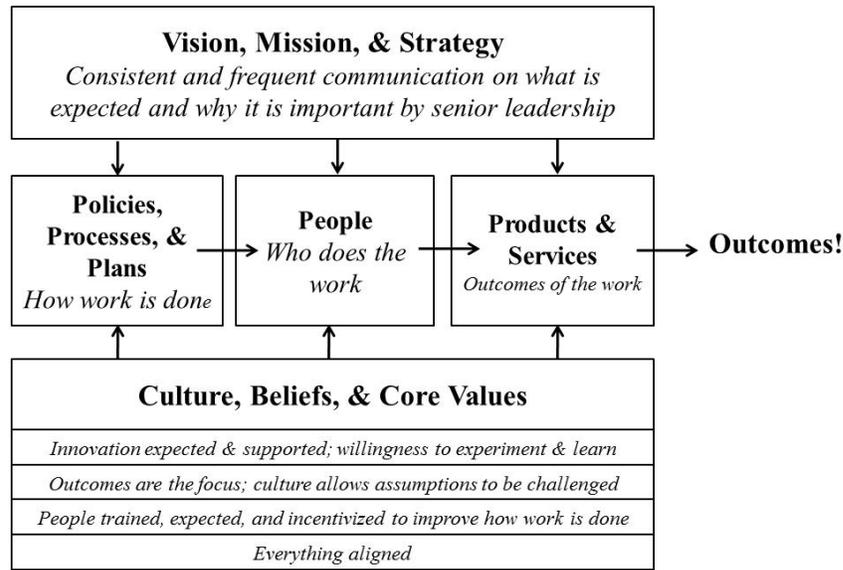


Figure 1: Model of an adaptive organization

- **Leadership frequently and consistently communicates the vision and strategy.**<sup>1</sup> [Taylor 2009]. The Ford Motor Company recovered from its losses by establishing a “one Ford” strategy with a focus on maintaining a competitive advantage in the marketplace, and communicating that strategy at every opportunity.
- **Individuals are valued. New ideas and challenged assumptions are encouraged throughout the organization.** [Heifetz, Linsky, and Grashow, 2009]. Intel, the world’s largest semiconductor chip maker maintained strong brand value in the face of relentless competition by knocking down the barriers between research and development (R&D) and manufacturing.
- **Information is widely available and processes are transparent.** [Peters 2004]. Apple established cross-functional teams and gave them responsibility and authority.
- **Processes, training, education, incentives, and accountability are aligned with strategy, vision, and culture.** [Ahls 2001]. Southwest Airlines, an airline in the United States, views its employees as its major differentiator and invests heavily in training to ensure companywide commitment to its mission.
- **Work is output – rather than input – centric; it begins by stating desired outcomes in customer terms, and then seeks a portfolio of executable options.** [Grossman 2005]. Apple’s dominance in the customer electronics market is attributable to its strategy of value creation. It starts by asking “What do customers need?” Importantly, Apple holds firm to its product outcome vision from the initial design concept through engineering and manufacturing.
- **The customer satisfaction, cost, and schedule trade space is addressed with a sense of urgency and focus on shared outcomes.** [Ahls, 2001]. CEMEX grew from a small local building materials company to one of the top global companies in the industry by

<sup>1</sup> Includes personal interviews with executives from several automotive companies

understanding the customer's mindset and focusing innovation on how the work is done and delivered to the customer. CEMEX equipped its trucks with GPS locators, enabling dispatchers to arrange deliveries within a 20-minute window as compared to three hours by its competition.

- **Activities that consume resources but create no value for the customers are routinely challenged and eliminated.**<sup>2</sup> IBM routinely adapts to the changing business climate by shedding old products and developing new capabilities. In the past few years, IBM shifted from mainframe computers to the personnel computer markets, and again to its original mission as a service provider – resulting in one of the largest and most profitable information technology companies in the world.
- **Fast, good decisions are sought and acted upon.** [Judge 2001]. Cisco, one of the most profitable companies in the world, emphasizes early value delivery with an approach called “rapid iterative prototyping” and staffs projects with people who are capable of learning and adapting.
- **Smaller teams are favored for their high productivity.** [Jarvis 2009]. Google has an average of three engineers per team in order to encourage experimentation, remain adaptive, and retain a small company entrepreneurial feel.
- **Innovation is expected and supported; people are willing to experiment and learn.** [Hamel, 2009]. Novell, a multinational software and services corporation, increased sales by 20 percent and doubled profits by changing its culture and involving employees more in product development.
- **A unique and sustainable advantage is sought through achievement, innovation, and change.** [Beinhocker, 2006]. Amazon.com became the largest online retailer in the United States because of its willingness to make changes, both large and small, while others were just catching up.

Organizations that struggle with adaptation often pursue change as an effort of “last resort” during crisis. However, it is possible to adapt by following a phased approach to transform an organization suggested in the model. This is illustrated first in a specific example application and then generalized using the concept of a maturity model to provide a guide, or roadmap, within which to plan and implement a migration to a more adaptable organization.

## 4 Findings

The study involves a university-based research institute created in the mid-1930s. Historically successful in the military defense sector, the institute had maintained world class expertise in specific technology fields as well as specialized design and testing services for government and industry customers. However, by the turn of the 21<sup>st</sup> century its growth had become stagnant, placing its core technical expertise at risk. It was perceived as reliable, but as non-innovative. It needed to adapt both to the strategic objectives of the university and to the opportunities within its own sponsorship base. It lacked the will and ability to change. In 2003, a new director was hired with the mandate to lead the research institute and to take actions necessary for the organization's adaptation.

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<sup>2</sup> Interviews with IBM executives, 2010.

The director began by interviewing key sponsors and conducting surveys to assess the organization's perception of itself. The results, shared with the institute in a director's email post, detailed an organization with a competent technical research staff constituted as 7 separate business units that reported to a central director's office. However, each unit operated under its own strategy and plans with little guidance from the central office or coordination with other units. Also, it was not uncommon for these independent units to compete for the same sponsor, thus a culture of distrust and nonproductive effort existed. In addition, there was also a distrust of the director's office which was perceived as "top heavy" and nonresponsive. The results of the surveys and interviews portrayed an organization with nonalignment of vision, strategy, culture, beliefs, and expected outcomes.

At an October 2003 leadership offsite, the new director announced that henceforth all plans, all actions, all investments, and all communications would be in accordance with the diagram shown in Figure 2. This was an initial version of the adaptation model discussed earlier based on the strategic management work of [Collins and Porras, 1996] and vertical alignment in [Labovitz and Rosansky, 1997]. It was decided that over the ensuing year, a shared vision would be formulated, one that could be understood and eventually embraced throughout the organization. As part of this, the new director published a revised organization chart showing alignment across the organization. A unique feature was the positioning of the director's office and staff at the bottom of the chart. The intent was to communicate through words and actions that the management and staff existed to enable research and to support those conducting the research.

Alignment was the key component of changing the culture from one of individual competing business units to a united organization as depicted in Figure 1. Vertical alignment preceded horizontal alignment through an intentional process of continuous improvement to ensure consistent actions under a well-articulated vision and strategy and the creation of a culture that accepted, even embraced change. Process improvement actions were initiated by those who "owned" and worked under key processes such as proposal creation, contact management, and facilities and laboratory modernization. A budgeting process with an accompanying investment strategy was created and aligned with strategy. Slowly but surely, the culture improved as alignment between vision, strategy, culture, processes, expectations, and incentives all focused squarely on achieving superior results for sponsors. The slogan became *Problem.Solved* – a reflection of a new "can do, why not?" culture. Thus after securing vertical alignment of strategy and people in a credible way, it was possible to address horizontal alignment.

The results were impressive as reported in [Cross 2012]. By 2007, the sponsored award base doubled and then doubled again by 2012. The organization grew by over 75% through the hiring of new technical staff and perhaps more significantly, the organization is now assessed as one of the best places to work in its region. Equally impressive was the speed by which the organization responded to new research opportunities and the focus on achieving superior outcomes for research sponsors. What previously took months to achieve through protracted work led by senior management now took days by researchers and support staff empowered to initiate change.

Currently, the results from this case study and from other engagements with industry and government organizations are being codified into a process model. In 1991 the Software



Figure 2: Vision as a key component of alignment

Engineering Institute released the Capability Maturity Model for Software<sup>®</sup> (SW-CMM) consisting of key practices organized into a “roadmap” that guides organizations toward improving their software development and maintenance capability. The SW-CMM approach was based on principles of managing product quality that have existed for the past 60 years. A CMM follows the quality work of Crosby [Crosby 1979] where he observed progressing levels of maturity in an organization’s ability to anticipate, resolve, and eventually nullify quality problems. These principles were adapted by the SEI into a foundation for continually improving the software development and maintenance process. Since its release, the SW-CMM approach has significantly influenced software process improvement worldwide. Other variants have been developed and applied to systems engineering, information survivability, and other fields. [Cross 2002].

The case study presented suggests that successful transformation to a more adaptive organization is possible by pursuing continuous improvement through a phased approach. The CMM provides an actionable roadmap for organizations seeking to migrate from crisis-based reaction to a more anticipatory and success-focused approach to change. Following [Crosby 1979], it has been the experience of this author, both in organizations he has led and in a review of the literature, that organizations map to five levels of “adaptation maturity as suggested in Fig. 3.

- **Level 1:** The ad hoc level is where many organizations find themselves. They may be currently successful within some market segment, but they do not anticipate internal or external changes that threaten their ability to maintain market share. They often recognize the need to change far too late and then react in a crisis mode to change. Often their ability to adapt comes too late and with negative consequences.
- **Level 2:** Before an organization can become more adaptive, it must have a credible vision and strategy that guides and is supported by senior leadership. As indicated in the case studies and from experience, a critical initial step towards adaptation is for senior leadership to articulate a vision and strategy for the organization that clearly communicates the goals of

<sup>®</sup> The Capability Maturity Model and CMM are registered by Carnegie Mellon University with the U.S. Patent and Trademarks Office.

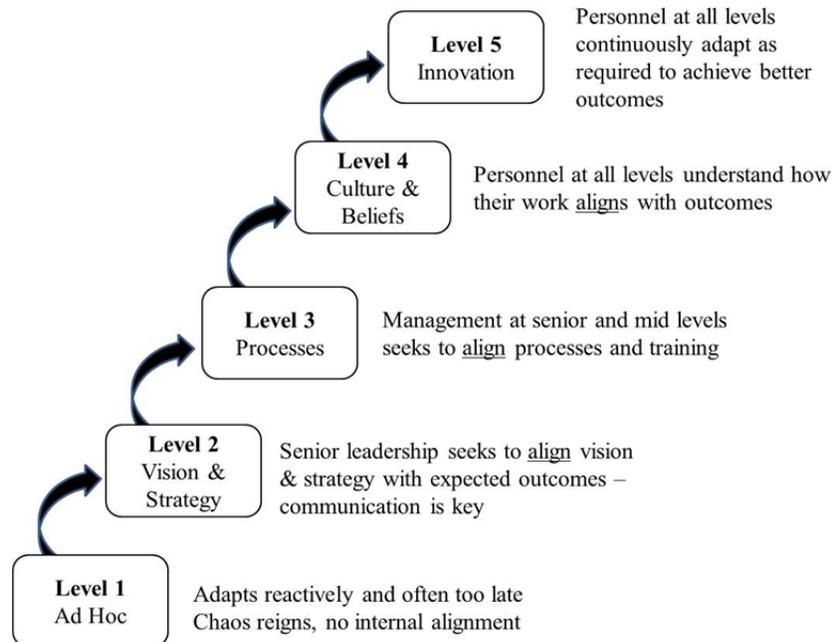


Figure 3: An Adaptation Maturity Model

the organization and the means to achieve those goals. Practices related to defining the vision and strategy are well documented in the literature (e.g., the “create shared vision” guidance in [Kouzes and Posner, 2002]). Clearly, effective and frequent communication is a key tool for achieving credibility and believability within the organization. Practices related to effective leadership as advocated by [Kouzes and Posner, 2002] includes modeling the way and creating a shared vision.

- **Level 3:** As the organization becomes more adaptive, it seeks alignment of work processes and personnel programs in alignment with the vision and strategy. This is a critical phase for successfully transforming to a more adaptive capability. Often middle management resists change unless it recognizes exactly how its work impacts the outcomes desired by the organization. Communication remains a vital element at this level. Employees at all levels are assigned more responsibility to take initiative to improve work processes and to express opinions about ways work is done that is not directly tied to desired outcomes. Process and related information is more transparent to all within the organization.
- **Level 4:** At this level, all employees understand how their work is directly related to the desired outcomes of the organization. All employees begin to think more about how customers view the organization. Pride increases as employees see that their actions are valued and respected by management. By this time, the organizational culture and beliefs have changed so that everyone in the organization takes responsibility for achieving desired outcomes.

- **Level 5:** It is at this level, after vision, strategy, leadership, processes, training, and culture are aligned so that innovative programs can be pursued without fear and with the full knowledge that finding new ways to improve products and processes is both expected and valued. Employees are encouraged to work in small teams to continuously find better ways to achieve desired outcomes.

Additional research is planned to develop this model as a roadmap of actionable steps an organization can take to move from a current state to an organization typified by the adaptation model presented earlier in this table.

## 5 Conclusion

The model presented emphasizes the importance of alignment across vision and strategy, culture and beliefs, processes, plans, people, and desired outcomes. The experiences described in this paper suggest that a phased approach to transform to a more adaptive organization requires that the organization first focus on strategy and vision, then process, then culture, and then innovative practices. It takes time for such to become believable, and this is a precursor for meaningful process improvement activities. When the benefits of real change are seen and aligned with incentives and training programs, a more “outcome focused” culture evolves. It is at this point that innovative practices can be introduced and people empowered to apply those practices throughout the organization. It is interesting that the experiences of the organization discussed in the case study are similar to the experiences reported by [Crosby 1979] from industrial quality improvement programs. This is summarized in Table 1.

Adaptation was defined as the ability of an organization to self-adjust to meet changing conditions. A review of the leadership, innovation, and change management literature provided several insights into why some organizations are adaptive. A further exploration found key attributes exhibited by successful adaptive companies. From this, a model of an adaptive organization was presented. A key aspect of that model was the alignment of vision, strategy, leadership, processes, and culture - all focused on achieving the stated goals of the organization. An example was presented in the transformation of a large organization into one that was more adaptive and innovative. Initial work on an adaptation capability maturity model was presented to provide a phased roadmap to guide an organization in its adaptation efforts.

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	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>
Observation	We try too late and don't know how	Senior leadership spends a lot of time imploring change	Middle management begins to lead change efforts	Everyone understands how their own work supports outcomes	People throughout the organization are empowered to lead change as required to improve outcomes
Time to adapt	N/A	Years to months	Months	Days	Hours

Table 1: Progression to becoming an adaptive organization

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